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## **2014 ANNUAL REPORT POWELL ROAD LANDFILL**

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## **1.0 INTRODUCTION**

This report is the 2014 Annual Report for Powell Road Landfill (PRL) in Montgomery County, Ohio. Included in this report are data on systems operation and maintenance, system and facility inspections, corrective actions, monitoring events and sampling results, and an evaluation of the effectiveness of each of the remedial action components.

Pursuant to the approved Remedial Design documents and the approved Operation and Maintenance (O&M) Plan, the remedial action components covered in this Annual Report include:

- Site Security,
- Landfill Cover,
- Surface-Water Controls,
- Landfill Gas Extraction/Treatment,
- Landfill Liquid/Condensate Extraction and Storage,
- Landfill Gas Monitoring, and
- Ground-Water Monitoring.

Remedial Action (RA) activities at PRL were conducted in accordance with the approved Powell Road Landfill O&M Plan, March 2013 revision. Semiannual RA Progress Reports were prepared by Waste Management and were submitted to U.S. EPA and Ohio EPA per the requirements of UAO's, V-W-98-C-466 and V-W-98-C-465 and per the frequency approved by U.S. EPA on May 10, 2004. Copies of the semiannual reports are included in Appendix A. Quarterly inspections were performed in March 2014; June 2014; September 2014; and December 2014. Copies of the quarterly inspection reports are included in Appendix B of this annual report.

## **2.0 ENVIRONMENTAL COVENANT**

A new Environmental Covenant (EC) was developed for the Powell Road Landfill in 2010. The EC was recorded with the Montgomery County Recorder's office on September 29, 2010. A

copy of the recorded EC was submitted to U. S. EPA on October 22, 2010. The Owner or any Transferee shall submit to U.S. EPA on an annual basis written documentation verifying that the activity and use limitations remain in place and are in compliance with this Environmental Covenant. The annual EC verification for 2014 is included in Appendix C. As of this date the activity and use limitations remain in place and are in compliance with the EC.

### **3.0        SITE SECURITY**

Site access is controlled by perimeter fencing. All fencing has three strands of barbed wire on the top. The vehicle site entrance from Powell Road is secured with gates and locks. All other access points are gated and locked. Signs are posted on all gates and at 150-foot intervals along the perimeter fence as a warning to potential trespassers. Quarterly inspections must include identification of fencing, barbed wire, gates, locks, and signs that require repair or replacement. Repairs are to be made as soon as practical after discovery.

#### **3.1     Inspection**

The site security systems were inspected once per quarter in 2014. Site security items that were inspected included condition of perimeter fencing, presence and condition of signs posted on gates and perimeter fencing, security of the site access road, and whether undesirable uses of the property were being prevented. The quarterly inspection forms are included in Appendix B.

For all four quarters, the inspectors determined that the security systems were performing as intended and were effective at preventing undesirable use or unauthorized access of the property.

#### **3.2     Corrective Action**

The September and December inspections noted some minor damage to the barbed wire and wire holders on top of the fence on the south side of the site due to falling trees. Site security was not compromised by the damage and no corrective actions were performed in 2014.

## **4.0      FINAL COVER**

### **4.1    Description**

The PRL landfill cover is constructed over the waste mass. The constructed landfill cover system includes (from bottom to top):

- A low permeability, compacted, soil barrier layer, with a minimum compacted thickness of 24 inches, constructed to limit surface-water infiltration into the waste mass,
- A grading layer placed over the soil barrier layer in areas where the surface of the placed/existing barrier grades were less than the required minimum 3 percent grade,
- A 12-inch thick granular drainage layer to drain infiltrated surface water off the soil barrier and grading layers to prevent unstable soil conditions from developing,
- A geotextile layer, placed over the granular drainage layer, to prevent overlying soils from clogging the drainage layer, and
- An 18-inch thick vegetative soil layer designed to sustain plant growth, reduce erosion, promote drainage, and provide frost protection.

### **4.2    Maintenance**

Annual maintenance of the final cover system consists of mowing the grass at least two times per year. The landfill was mowed in June and October 2014.

#### **4.3     Inspection**

The final cover was inspected once per quarter in 2014. The purpose of the quarterly inspections is to identify and record on the inspection report any areas of sparse vegetation, areas where erosion has taken place in the form of surface scour or formation of rills or gullies, locations of any animal intrusions, and any areas which have settled enough to trap surface water.

Items evaluated and noted on the inspection form during quarterly inspections of the final cover include:

- Final cover erosion,
- Top slope good drainage,
- Side slope good drainage,
- Evidence of gas or landfill liquid, and
- Vegetation quality and density.

The quarterly inspections indicated no problems with regard to erosion and drainage and there was no evidence of gas or landfill liquid.

#### **4.4     Corrective Action**

No corrective actions were required during 2014.

### **5.0       SURFACE-WATER DRAINAGE CONTROL AND FLOOD PROTECTION**

#### **5.1     Description**

The surface-water drainage control system consists of diversion swales on the final cover, perimeter drainage channels, culverts, and stone riprap. Ditches and channels are grass-lined and are designed to handle flow from a 25-year, 24-hour storm. Riprap is provided where surface-water

velocities cannot be controlled by vegetation alone. Corrugated steel culverts are used where a perimeter channel must cross an access road.

Due to the proximity of the Great Miami River to the PRL, a flood protection system is necessary to protect the final cover system during flood events. The existing trees and vegetation surrounding the landfill and the vegetative cover of the landfill provide adequate erosion control for the 100-year flood and constitute the flood-protection mechanisms. Mature trees and brush that currently exist between the Great Miami River and the landfill reduce the velocity of floodwaters that might come in contact with the landfill. The vegetative cover installed on the landfill cap within the floodplain is a deep-rooted, flood-resistant seed mix. The root system of the established vegetative cover holds the landfill final cover soils in place during flooding.

## **5.2 Maintenance**

The surface-water ditches and channels require mowing and, from time to time, reshaping to better control runoff. Ditches and channels are mowed on the same schedule as the landfill cover to control excess vegetation within the ditches. Ditches and channels are cleaned out as a corrective action when necessary. The ditches and channels were mowed in June and October 2014.

Corrective actions which may be required for the drainage-control/flood-protection system include periodic removal of silt, repair of gravel roadways, and repair of eroded grass channels. If erosion occurs repeatedly in a specific area, a design engineer may be consulted to determine if riprap is necessary. Any required final cover materials, riprap, vegetation, or culverts shall be obtained and placed in accordance with Technical Specifications in Section 6.0 of the O&M Plan.

## **5.3 Inspection**

The surface-water drainage-control/flood-protection system was inspected once per quarter in 2014. Inspection reports and Surface Water Control Inspection Logs are included in Appendix B.

Items evaluated and noted on the quarterly inspection form for the surface-water drainage system are:

- Appropriate runoff controls,
- Diversion ditches,
- Perimeter ditches,
- Perimeter stone,
- Outlet structures, and
- Roads.

Items evaluated on the Surface-Water Control Inspection Log are:

- Erosion and sediment control measures,
- Stabilization/Non-structural practices including surface grading, vegetative cover, mulch, and channel riprap,
- Structural practices including silt fencing and ditch checks,
- Discharge locations checked for sediment buildup,
- Vehicles tracking sediment off-site, and
- Status of Previous Maintenance Activities.

#### **5.4      Corrective Action**

The quarterly inspection reports did not identify any items that needed attention in 2014.

## **6.0 LANDFILL LIQUID/CONDENSATE MANAGEMENT SYSTEM AND COMPRESSED AIR SUPPLY SYSTEM**

### **6.1 Description**

The landfill liquid/condensate-extraction system consists of 3 liquid-extraction wells, 26 dual gas/liquid-extraction wells, well pumps, dual gas/liquid-header piping, three liquid/gas condensate-knockout sumps, two liquid/condensate-knockout pumps, force mains, a gravity liquid/condensate main, a liquid/condensate collection tank, and a load out facility and pump. Pneumatic pumps are installed in Knockouts 1 and 2 and those extraction wells which contain landfill liquid in sufficiently recoverable quantities as defined by the approved Remedial Design. Landfill liquid is pumped out of the wells and discharged into the dual gas/liquid header where it flows by gravity to one of three knockouts. At Knockouts 1 and 2, the accumulated liquid is pumped to a high point in the header piping system. From the high point, the liquid flows by gravity to Knockout 3. Landfill liquid/gas condensate flows by gravity from Knockout 3 to the site collection tank. In August 2012, a well (LCS Well) was installed to monitor ground-water elevations at the site. The well was equipped with a level sensor and alarm. The level sensor shuts down the compressor when the ground-water level in the LCS Well rises above 751 feet msl (i.e., during flood conditions) and reactivates the compressor when the ground-water level recedes below 751 feet msl. The landfill gas and liquid extraction systems are shown on Figure 1.

Well pumps and knockout pumps are pneumatically powered. An air compressor and associated equipment is housed in the Air Compressor Building, shown on Figure 1, located near the Blower/Flare Station. From the compressor, a network of underground 2-inch diameter compressed air supply piping feeds each of the well and sump pumps.

## **6.2 Operation**

### **6.2.1 Pneumatic Pumps**

The knockout pumps and well pumps operate automatically when activated by liquid levels within the knockout or well. They are not expected to require adjustments to operate. The pump regulators are subject to freezing and need to be checked periodically during cold weather. The regulators and liquid discharge lines need to be thawed out, weather permitting, when they are found to be frozen.

### **6.2.2 Air Compressor**

The air compressor is operated full-time when the liquid extraction system is in operation. All of the pumps are powered by compressed air. In the event of a high level alarm in the landfill liquid/condensate collection tank, the air compressor is automatically shut down to disable the pumps. The air compressor also is shut down during flooding by the level sensor alarm in the LCS Well, when ground-water levels rise above 751 feet msl.

### **6.2.3 Liquid Collection Tank**

The liquid collection tank contains level switches which signal the controller to activate notification lights and the auto-dialer. In the event of a high-level alarm, the controller shuts down the air compressor. The level switches, controls, and alarms for the liquid collection tank functioned properly in 2014 with routine maintenance.

### **6.2.4 Auto-Dialer**

The auto-dialer notifies individuals of tank-level information (1/2-full, 3/4-full, or full), air compressor system shutdown, and flare system shutdown according to a pre-programmed call list

and continues dialing until an individual acknowledges the call. The auto-dialer protocol was revised in March 2015 and is included in Appendix D. The auto-dialer functioned properly in 2014.

#### **6.2.5 LCS Well**

The LCS well functioned as intended in 2014. Shut down of the liquid collection system due to high ground-water levels at the LCS well totaled about 99 days in 2014. The majority of system down time occurred between January and June.

### **6.3 Maintenance**

Maintenance for well pumps, knockout pumps, the air compressor, storage tank pump, auto-dialer, level switches, etc. is performed in accordance with the Maintenance Schedule in Appendix D of the O&M Plan or as maintenance requirements are identified during inspection or operation of the system. All maintenance is performed in accordance with the manufacturers' recommendations.

### **6.4 Inspection**

The 30-year O&M Schedule included in Appendix D of the O&M Plan calls for quarterly inspections and checks of the landfill liquid management system, and for semiannual cleaning of the flame arrestor on the vent for the liquid/condensate collection tank, and semiannual inspection of the compressed air distribution piping system for signs of leakage. The required inspections and maintenance activities have been performed in accordance with the O&M plan in 2014. Landfill Systems Equipment Inspection Reports are included in Appendix B and Landfill Gas and Condensate Collection Systems Maintenance Summary Reports are included in Appendix E. Compressor and sump inspection information also is included on the Blower/Flare Station Data sheets in Appendix F.

The system components inspected, evaluated, and noted on the quarterly inspection forms in Appendix B for the landfill liquid/condensate management system and the compressed air supply system include:

- Collection sumps and risers
- Electrical components
- Liquid loading pad
- Storage tank
- Security of system
- Flare/Blower operation
- Extraction wells/pumps
- Mechanical components
- Gas probes
- Evidence of odors/migration
- Auto-dialer

The March, June, and September, quarterly inspection reports indicated that there was excessive noise from the compressor. Corrective actions are itemized in Section 6.5.

There were no other deficiencies for these system components in 2014. Low compressor pressure, pilot failures and power interruptions noted on the alarm history reports in Appendix D relate to liquid collection system shut down by the LCS well and do not reflect any operational problems with the systems.

#### **6.5      Corrective Action**

The following corrective actions were performed on the landfill liquid management and compressed air supply systems in 2014.

- The Compressor was replaced in April and the air dryer was removed. It was determined that the air dryer was causing an excessive load on the compressor and was not improving system operations.
- Wiring for remote operation of the LCS well was completed in April.
- The excessive blower noise was determined to be due to vibration of the bearings and the shaft connecting the motor and the blower. The bearings and shaft were replaced in November and December 2014.
- A new actuator valve was ordered for the flare in December and the actuator will be replaced in early 2015.

## **6.6 Liquid Levels**

### **6.6.1 Monitoring**

The O&M requirement for quarterly monitoring of liquid levels in wells without extraction pumps was eliminated in September 2013 per approval by USEPA (letter from Molitor to Jones, September 27, 2013). The extraction wells were inspected during quarterly inspections in 2014. The condition of the extraction wells and cycle counter readings from wells with extraction pumps are recorded on the Well Field Pump Cycle Data sheets in Appendix G.

For background information on liquid-level monitoring prior to 2000 and information pertaining to initial pump installation and extraction pump operation and maintenance, refer to RA Technical Memorandum No. 7, "Leachate Pump Installations, Leachate Levels," dated January 11, 2000.

### **6.6.2 Corrective Action**

- On June 18, 2014 regulators were replaced at G/L-4, G/L-10, G/L-13, and G/L-23.
- On August 1, 2014 the regulators were replaced at the East and West Sumps and the pump was replaced in the West Sump.
- On September 30, 2014 discharge lines were repaired at G/L-9 and G/L-24. Broken air lines were replaced at G/L-11, G/L-14, G/L-20, and G/L-22. The cycle counter was replaced at G/L-20 and a new pump was installed in G/L-18.
- On October 1, 2014 all 26 gas/leachate extraction well pumps were cleaned and inspected.

### **6.7 Landfill Liquid Volume Monitoring**

A monthly summary of the quantity of liquid hauled from PRL in 2014 is included in Appendix H. All liquid was removed from the site via tanker truck and was hauled by Veolia Industrial to the United Wastewater Treatment Facility for disposal. The total amount of liquid removed from PRL in 2014 was 99,000 gallons.

### **6.8 Landfill Liquid Quality Monitoring**

The required annual landfill liquid sample was collected and analyzed in May 2014 in accordance with Section 2.9 of the approved O&M Plan. Analytical results from the collection tank samples are summarized on Table I-1 in Appendix I. Only detected VOCs, SVOCs, pesticides, herbicides, and PCBs are listed on Table I-1. The collection tank sample was analyzed for all the parameters of the approved reduced monitoring analyte list. The analytical data on Table I-1 show consistency in the parameters detected with some variation in the detected concentrations between events.

## **7.0 LANDFILL GAS MANAGEMENT SYSTEM**

### **7.1 Description**

Landfill gas (LFG) is collected from a network of 26 dual gas/liquid extraction wells. The design allows for simultaneous extraction of gas and landfill liquid from the landfill. A blower is used to create a vacuum within the headers and wells to extract the gas from the landfill. The collected landfill gas is conveyed through buried high-density polyethylene (HDPE) pipes (laterals) connected to a common buried main HDPE header. The landfill gas is conveyed to a flare for combustion. Condensate from the landfill gas extraction system is separated from the gas and combines with extracted liquid in three knockouts located at low points within the header system. The landfill gas and liquid extraction systems are shown on Figure 1.

### **7.2 Operation**

The landfill gas extraction system includes the wells, wellhead assemblies, transmission piping and valves, blower, and flare. The landfill gas extraction system components need to be operated simultaneously to result in a balanced system.

#### **7.2.1 Normal Operation**

The gas/liquid extraction wells are required to be monitored quarterly for oxygen content, percent methane, differential pressure (to determine flow), gas temperature, cover settlement and desiccation, vegetative stress, and the physical condition of the wellhead. These measurements and observations are made in order to determine the overall physical condition and operating status of the gas well system.

Quarterly monitoring of the blower/flare station also is required for oxygen, methane content, gas temperature and flow rate, blower amps, flare temperature, and physical condition of equipment.

These measurements and observations are made in order to determine the overall physical condition and operating status of the blower/flare station.

The system was inspected, monitored, and adjusted by the Waste Management Landfill Technician in 2014. Wellfield monitoring was not performed in January, February, April, May, or June because the system was shut down by the LCS system due to flooding. Wellfield monitoring was not performed in December because the gas system was down for maintenance. Appendix J contains the Wellfield Monitoring Data Reports for 2014. The reports document methane and oxygen concentrations, applied vacuum, and any adjustments made to the control valve for improving operations at each well. Blower/ Flare Station Data sheets are included in Appendix F. These reports document vacuum, percent methane, percent oxygen, and total system flow in cubic feet per minute (cfm) at the blower/ flare station. The flare operates for 12 hours each day from 8:00 am to 8:00 pm. This operating cycle prevents flare outages due to insufficient gas flow and/or poor gas quality.

#### 7.2.2 Downtime

Monthly downtime reports for the gas extraction and liquid/condensate management systems are included in Appendix D.

#### 7.3 Maintenance

Maintenance for landfill gas header valves, the flare, and blower is carried out in accordance with the O&M Plan, as identified during inspection or operation of the system, and in accordance with the manufacturer's recommendations.

The 30-year O&M schedule included in Appendix D of the O&M Plan calls for the flare stack to be drained, the blower to be lubricated, and several checks on the system to be performed quarterly. In addition, the flame arrestor is to be cleaned semiannually. These maintenance activities

were carried out in 2014. Other maintenance activities were performed as necessary in 2014 as described on the Blower/Flare Station Data sheets in Appendix F.

### 7.3.1 Landfill Gas Header

Maintenance on the landfill gas header is expected to be minimal based on experience from other sites. The most typical concerns are crushing due to unexpected traffic or excavation, and water blockage due to settlement of waste. Since the landfill header is designed as a looped system, repair on an individual segment or leg would not impact the entire system. The repair area could be isolated by valves or temporary plugs. There were no landfill gas header system breaks or blockages in 2014.

### 7.3.2 Valves

The landfill gas transmission valves and valves at the wellheads are plastic. During inspections, the valve handles are turned to determine if each valve is operable. Excessive resistance could mean partial blockage of the valve. There were no operational problems with the valves in 2014.

### 7.3.3 Flare

Scheduled inspections of the flare are performed to monitor the physical condition of the stack metal and flame arrestor. The stack will be replaced when excessive corrosion or perforation of the metal stack is noted. No such deterioration has occurred. The flame arrestor is maintained in accordance with the manufacturer's requirements included in Appendix F-8 of the O&M Plan. During each inspection, the drain plug at the base of the flare stack was opened and any accumulated condensate was collected and disposed in the liquid/condensate collection tank.

Maintenance of the area near the pad on which the flare is mounted includes removal of vegetation/weeds by spraying or cutting. Weeds and vegetation were removed in 2014. Concrete surface maintenance is limited to repairs on an as-needed basis.

#### 7.3.4 Blower

An Aerovent Model 26/6-HPB-3500-15 high pressure, fan-type blower provides vacuum extraction to the well field and discharges the gas to a Landfill Gas Specialties flare package model PCF61816 utility flare for thermal destruction. The O&M Manual for the flare system is included in Appendix F-8 of the PRL O&M Plan.

### 7.4 Inspection

The landfill gas management system was inspected at least once per quarter in 2014 and inspection reports are included in Appendix B. The inspections were performed to identify gas system components in need of repair. The inspections included observation and operation of all system components to identify any damage and verify optimal operation.

The components of the landfill gas management system noted on the quarterly inspection forms include:

- Electrical components,
- Mechanical components,
- Extraction wells,
- Flare/blower operation, and
- Security of system.

Maintenance on the extraction wells is described in Sections 6.5 and 6.6.2. Excessive noise from the blower was noted in September and it was noted that the flare was not operating properly in December. No other deficiencies were noted on the quarterly inspection forms in 2014.

## **7.5     Corrective Action**

- The excessive blower noise was determined to be due to problems with the blower bearings and shaft from the motor to the blower. These were repaired in November and December.
- A new actuator valve for the flare was ordered in December. The valve will be replaced in early 2015.

## **8.0       LANDFILL GAS MIGRATION MONITORING SYSTEM**

### **8.1     Description**

The landfill gas migration monitoring system consists of one Sierra monitor within the compressor building and permanent gas monitoring probes near the property boundaries. The landfill gas monitoring system is shown on Figure 2.

Horizontal and vertical layout of the gas monitoring probes is based on site-specific geologic conditions. The gas probes are horizontally positioned outside the limits of waste and in line with off-site structures. Their depths were determined based on the estimated bottom of refuse elevation in the landfill and the ground-water elevation.

The landfill gas migration monitoring system includes six permanent gas monitoring probes (GP-1 through GP-6). These probes are located along the north and northeast perimeters of the landfill as shown on Figure 2. The installation of the six gas probes is documented in a report titled, “Perimeter Gas Monitoring Probe Construction Report,” February 2000, prepared by SCS Engineers, and is included in Appendix E of the Explosive Gas Monitoring Plan (March 2013).

The landfill gas migration monitoring system at Powell Road Landfill also includes one Sierra Model 2001 Combustible Gas Monitor located within the Compressor Building. The monitor

continuously checks atmospheric concentrations of combustible gas with a trigger level of 1 percent v/v (20 percent LEL). If the trigger level is reached or exceeded, both audio and visual alarms alert the occupants to the presence of elevated levels of combustible gas within the structure. (Occupants would then follow the instructions included in the “Residential Emergency Procedure,” included in Appendix F of the Explosive Gas Monitoring Plan as Exhibit 10.)

## **8.2     Inspection**

The landfill gas migration monitoring system was inspected at least once per quarter in 2014. The quarterly inspections were performed to identify any system components in need of repair. Inspection reports in Appendix B did not note any deficiencies. The Sierra Combustible Gas Monitor also was inspected quarterly and copies of the inspection forms are included in Appendix K.

## **8.3     Corrective Action**

No corrective actions were required in 2014.

## **8.4     Monitoring**

Landfill gas monitoring was performed in accordance with the approved explosive gas monitoring plan. Each monitoring station must be monitored at the following minimum frequencies:

1.     Quarterly monitoring, for a minimum of 1 year following approval of the Explosive Gas Monitoring Plan.
2.     Semiannually thereafter until released from the requirement by the Director of the Ohio EPA in accordance with OAC 3745-27-12(L) and with the approval of the U.S. EPA.

Gas monitoring at the site follows safety and procedural methods included in the “Standard Monitoring Procedures” portion of the Explosive Gas Monitoring Plan.

#### 8.4.1 Sampling

Sampling of the landfill gas monitoring probes was performed quarterly in 2014. The following information was recorded:

1. Percent methane,
2. Gas pressure in the probe,
3. Water level in the probe,
4. Ambient barometric pressure, and
5. Observed weather conditions at the time of sampling.

The results are recorded on the Permanent Gas Probe Monitoring Reports included in Appendix L.

#### 8.4.2 Results

Pressure readings ranging from -0.02 to 1.10 inches w.c. were recorded in 2014 as noted on the monitoring reports. No methane was detected and there were no alarms from the Sierra Combustible Gas Monitor. Water levels could not be measured in GP-4, because the cap could not be removed.

#### 8.4.3 Corrective Action

No corrective actions were required in 2014.

## **9.0 GROUND-WATER MONITORING SYSTEM**

### **9.1 Description**

The ground-water monitoring system at PRL consists of 19 monitoring wells for the collection of ground-water samples and five monitoring wells that are used only for measurement of ground-water levels. The monitoring well locations are shown on Figure 2.

Ground-water monitoring wells MW02AR, MW04AR, MW05AR, MW07AR, MW16A, MW17A, and MW18A are downgradient site monitoring wells completed in the shallow zone north of the Great Miami River. MW07AR is used only for water-level measurements. MW12A is an upgradient well completed in the shallow zone.

Monitoring wells MW02B, MW04BRR, MW05BR, MW16B, MW17B, and MW18B are downgradient monitoring wells completed in the primary aquifer north of the Great Miami River. Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are primary aquifer monitoring wells south of the Great Miami River (Eldorado Plat area). MW12B is the upgradient primary aquifer monitoring well.

Monitoring wells MW3S, MW3D, MW4S, and MW4D are shallow and deep primary aquifer well pairs that belong to the City of Dayton. These wells are used only for ground-water level measurements.

The purpose of the ground-water monitoring program is to generate data that can be used to evaluate the effectiveness of the containment components of the remedial action at reducing risks and achieving cleanup levels in the ground water in the shallow zone adjacent to PRL. The program also monitors for changes in ground-water flow and potential migration of contaminated ground water from the site.

## **9.2     Inspection**

The ground-water monitoring system was inspected once per quarter in 2014 and the quarterly inspection forms are included in Appendix B. The purpose of the quarterly inspections is to identify any system components in need of repair.

Items evaluated during the quarterly inspections are:

- Construction integrity,
- Security of wells, and
- Identification of wells.

None of these items required attention during 2014.

The ground-water monitoring system was also inspected during ground-water monitoring events. Monitoring Well Integrity Reports are included in Appendix M for inspections conducted on May 13 and November 3, 2014. The report form includes 22 questions in four categories. The categories are:

- Location/Identification
- Surface Seal
- External Casing
- Internal Casing

An explanation of items marked “X” on the inspection forms is included with each form in Appendix M. All items marked “X” were either unavoidable or done on purpose as explained in the appendix. During the second 2014 ground-water monitoring event, the pump at MW02B was operating in an erratic manner. The pump was removed post-sampling and sent to QED for service and will be replaced during the first 2015 ground-water monitoring event. There were no other items marked indicating damage or poor physical condition of ground-water monitoring wells in 2014.

### **9.3 Corrective Action**

The ground-water monitoring system did not require any corrective action in 2014.

### **9.4 Monitoring**

#### **9.4.1 Sampling**

Ground-water samples were collected from site ground-water monitoring wells in May and November 2014 in accordance with the site-specific Ground-Water Monitoring Plan (Appendix H to the O&M Plan). During each ground-water monitoring event, samples were collected and analyzed for the parameters required for regular semiannual monitoring and additional parameters for monitored natural attenuation.

#### **9.4.2 Results**

Ground-water quality results for the Powell Road Landfill are summarized on CD in Appendix N on Tables N-1 (VOCs), N-2 (Metals), and N-3 (Wet Chemistry Analytes). The validated data plus trend plots for the 2014 ground-water monitoring events were submitted to the Agencies in separate data reports. Non-CLP analyses were performed by TestAmerica (fka Severn Trent Laboratories). Data validation was performed by Eagon & Associates, Inc., in accordance with the “USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, January 2010”, “USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008” (the August 2014 revisions to these documents were used to evaluate data from the second 2014 ground-water monitoring event), and the TestAmerica method SOPs.

#### **9.4.3 Conclusions**

The ground-water study report submitted to the Agencies in January 2003, and the 2008 and 2013 updates to the ground-water study report, demonstrate that the containment components of the remedial action, in conjunction with natural attenuation, have been and continue to be effective at reducing concentrations of volatile organic compounds and inorganic constituents in ground-water downgradient of PRL. The results of the 2013 third five-year review by U.S. EPA supported the conclusions of the 2013 ground-water study report. Ground-water monitoring results from 2014 generally show declining or stable trends in VOC concentrations and reduction of overall ground-water risks.

### **10.0 EVALUATION OF THE REMEDIAL ACTION**

#### **10.1 Introduction**

The purpose of this section is to report on the effectiveness of the remedial action components at meeting the design goals and protecting human health and the environment at Powell Road Landfill in 2014. The remedial action components covered in this Annual Report include:

- Site security,
- Final cover,
- Surface-water drainage and flood control,
- Landfill liquid/condensate management system,
- Landfill gas management system,
- Landfill gas migration monitoring, and
- Ground-water monitoring.

## **10.2 Evaluations**

In this section, each of the above components is evaluated as to its effectiveness in meeting performance standards in 2014.

The site security system was effective at preventing undesirable access or use of the site.

The final cover system was effective in reducing infiltration of surface water into the waste mass.

Surface-water drainage was maintained to effectively route water off the final cover system so that ponding did not occur and infiltration of surface water into the final cover was minimized. The flood protection system was maintained to reduce the erosive effects of flooding of the Great Miami River on the landfill. Mature trees, brush, and grasses located between the landfill and the river were not disturbed or mowed in 2014 so as to maintain the natural buffers which reduce the velocity of flood waters that came in contact with the landfill. The vegetative cover installed on the lower reaches of the landfill is a deep-rooted flood-resistant seed mix which was maintained in 2014 to hold the final cover soils in place during flooding.

The landfill liquid/condensate management system was effective at reducing liquid levels within the landfill. Approximately 99,000 gallons of liquid were removed from the PRL in 2014.

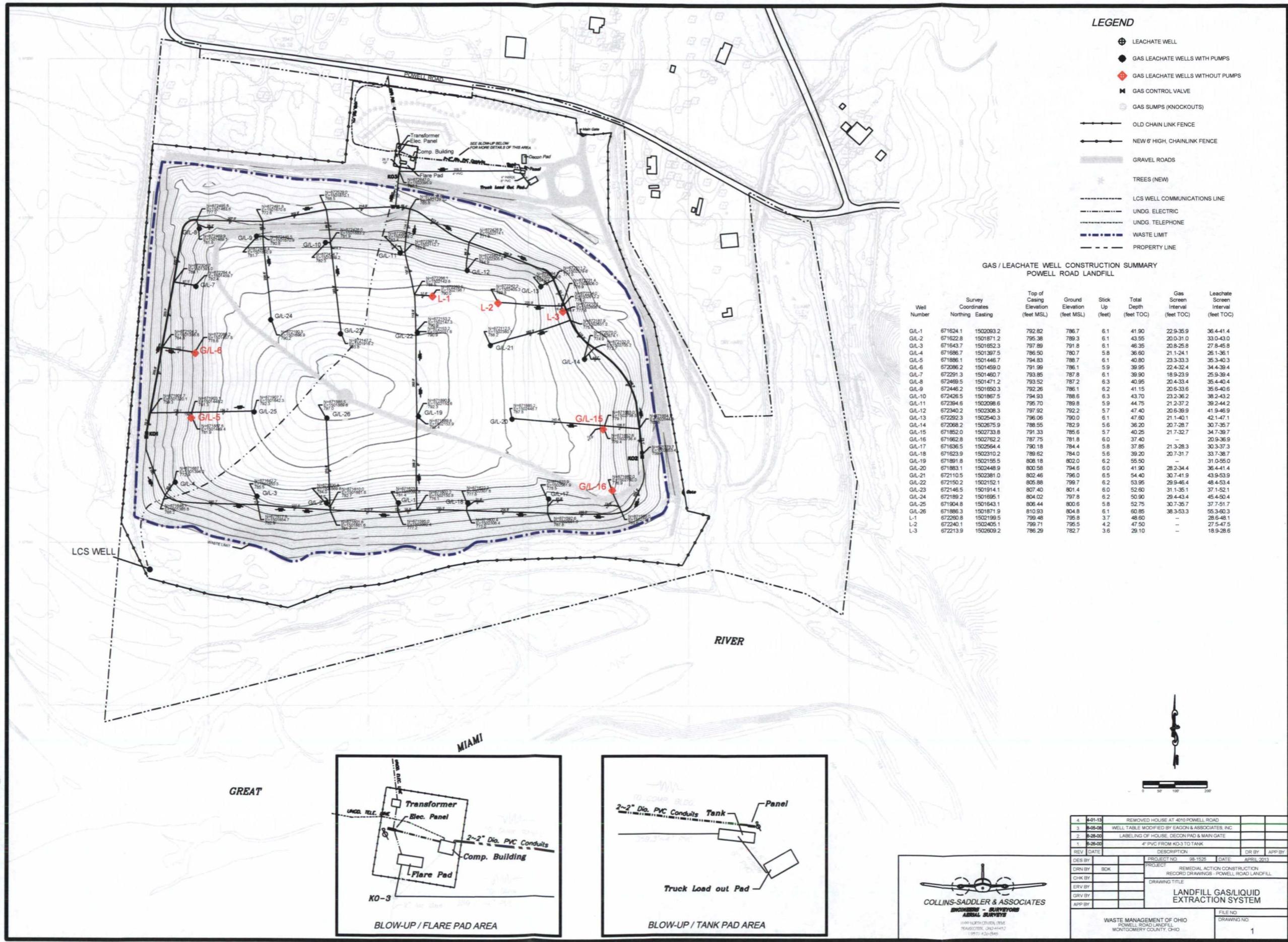
The landfill gas management system was maintained to effectively remove and combust landfill gas from the PRL such that migration of combustible concentrations of methane gas did not occur.

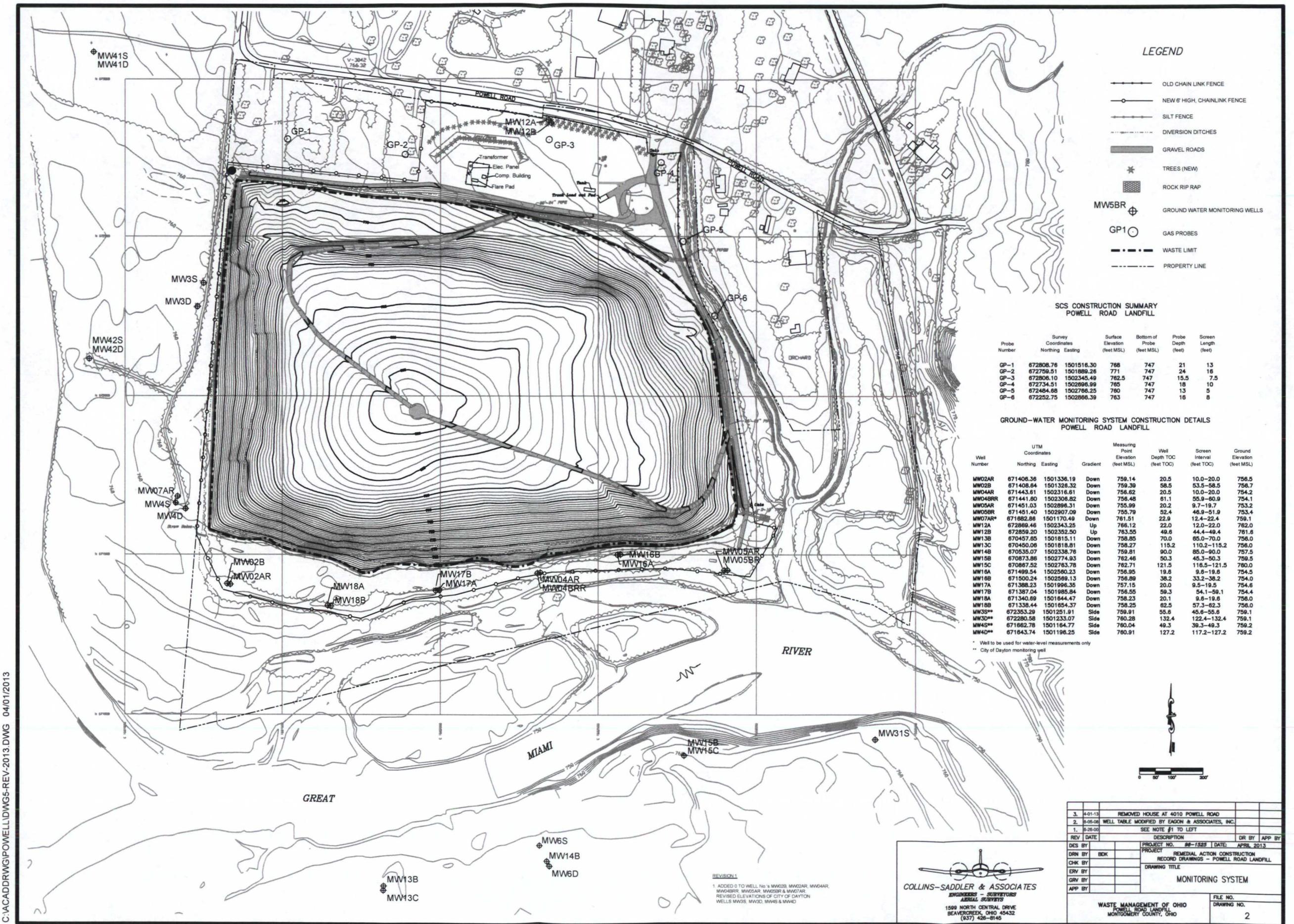
The landfill gas migration monitoring system was properly maintained and monitored in 2014. There were no methane detections at the gas monitoring probes and there were no alarms from the Sierra monitor.

The ground-water monitoring system was maintained and ground-water samples were collected and analyzed in May and November 2014 in accordance with the site-specific Ground-Water Monitoring Plan. The update to the ground-water study report submitted to the Agencies in 2013 demonstrated that the containment components of the remedial action, in conjunction with natural attenuation, have been effective at reducing concentrations of VOCs and reducing overall ground-water risks in ground-water downgradient of PRL. The third five-year review by U.S. EPA in 2013 agreed with the conclusions of the ground-water study. Ground-water monitoring results from 2014 showed declining to stable VOC concentrations and reduction of risks from ground water.

In summary, the remedial action components at Powell Road Landfill were effective at meeting the performance standards in 2014.

## **FIGURES**





**APPENDIX A.**

**2014 SEMIANNUAL PROGRESS REPORTS**



Closed Sites Management Group  
1700 North Broad Street  
Fairborn, OH 45324  
(937) 318-5342

July 27, 2014

**FEDERAL EXPRESS**

Ms. Pamela Molitor  
Remedial Project Manager  
U.S. EPA, SR-6J  
77 West Jackson Boulevard  
Chicago, IL 60604

**SUBJECT: 2014 FIRST SEMI-ANNUAL PROGRESS REPORT  
REMEDIAL ACTION  
POWELL ROAD LANDFILL  
U.S. EPA DOCKET NO. V-W-98-C- 466/465**

Dear Pamela:

Pursuant to the above referenced Orders WMO is presenting you with the progress report for the Remedial Action O&M activities at the Powell Road Landfill. This report is for the period of January 1, 2014 thru June 30, 2014. This report was prepared per the requirements specified in the above referenced UAO's and per the frequency approved by USEPA on May 10, 2004.

## **1.0 DESCRIPTION OF TASKS/ACTIONS PERFORMED IN ACCORDANCE WITH UAO V-W-98-C-466 DURING THIS REPORTING PERIOD**

The following submittals were made:

02/27/14 – SA Progress Report
01/15/14 – SA GW Report
04/21/14 – GW Sampling Notification
03/25/14 – Annual Report

## **2.0 SUMMARY OF WORK COMPLETED (01/14-06/14)**

The following occurred:	1 <sup>st</sup> SA GW event – 5/12-5/13/14 quarterly inspection – 03/11/14 quarterly inspection – 06/30/14 mowing – 06/14
-------------------------	--

LEACHATE SUMMARY	
January	0 gals
February	5,000 gals
March	15,000 gals
April	10,000 gals
May	18,500 gals
June	0 gals
Total	36,500 gals

GAS WELL TUNING	
January	NA
February	NA
March	03/31/14
April	04/30/14
May	05/30/14
June	06/30/14

The (03/11/14; 06/30/14) quarterly inspections and (03/11/14; 06/30/14) gas probe monitoring forms are attached. The site was mowed in June. The system downtime and maintenance reports are attached.

### **3.0 90 DAY SCHEDULE(S) WORK PLANNED (07/14-12/14)**

The next semi-annual report will be submitted in January 2015.

SA GW Report - 07/14  
Qtrly inspection – 09/14  
Qtrly gas probes – 09/14  
2<sup>nd</sup> SA GW event – 11/14  
Qtrly inspection - 12/14  
Qtrly gas probes – 12/14  
SA Progress Report – 01/15

**4.0 SCHEDULE VARIANCES FROM APPROVED RA PROJECT SCHEDULE**

No significant activity this reporting period.

**5.0 SUMMARY OF GROUNDWATER ACTIVITY PER UAO V-W-98-C-465 DURING THIS PERIOD**

No significant activity.

**6.0 SUMMARY AND DISCUSSION OF ALL APPROVED AND UNAPPROVED CHANGES MADE IN THE RA DURING THIS PERIOD**

No significant activity.

**7.0 SUMMARY OF PROBLEMS/DELAYS OR POTENTIAL PROBLEMS/DELAYS ENCOUNTERED DURING THIS PERIOD**

No significant activity.

**8.0 ACTIONS BEING TAKEN TO RECTIFY PROBLEMS/DELAYS**

See attached downtime reports.

**9.0 CHANGES IN PERSONNEL DURING THIS REPORTING PERIOD**

No significant activity.

## **10.0 PROJECTED WORK FOR THE NEXT REPORTING PERIOD**

See items in Section 3 above.

## **11.0 COPIES OF REPORTS AND SAMPLING RESULTS GENERATED DURING THIS PERIOD**

See attached downtime, gas and quarterly inspection reports. There was system downtime due to flooding during this semi-annual period.

Please contact Robin Jones regarding this submittal at 937-318-5342 or at rjones2@wm.com.

Respectfully,



Robin L. Jones  
District Manager  
WM Closed Sites  
Powell Road Landfill Project Coordinator

attachment

cc. Jim Forney, WM CSMG  
Scott Glum, OEPA/SWDO/DERR  
PRL Distribution

**CLOSED SITE MANAGEMENT GROUP**

1700 North Broad Street  
Fairborn, OH 45324  
(937) 318-5342  
(832) 668-3169 Fax

March 2, 2015

**FEDERAL EXPRESS**

Ms. Pamela Molitor  
Remedial Project Manager  
U.S. EPA, SR-6J  
77 West Jackson Boulevard  
Chicago, IL 60604

**SUBJECT: 2014 SECOND SEMI-ANNUAL PROGRESS REPORT  
REMEDIAL ACTION  
POWELL ROAD LANDFILL  
U.S. EPA DOCKET NO. V-W-98-C- 466/465**

Dear Pamela:

Pursuant to the above referenced Orders WMO is presenting you with the progress report for the Remedial Action O&M activities at the Powell Road Landfill. This report is for the period of July 1, 2014 thru December 31, 2014. This report was prepared per the requirements specified in the above referenced UAO's and per the frequency approved by USEPA on May 10, 2004.

**1.0 DESCRIPTION OF TASKS/ACTIONS PERFORMED IN ACCORDANCE WITH  
UAO V-W-98-C-466 DURING THIS REPORTING PERIOD**

The following submittals were made:  
07/27/14 – SA Progress Report  
08/18/14 – SA GW Report  
10/24/14 – GW Sampling Notification  
10/27/14 – AOS Invoice Payment  
1/16/15 – Pilot Study Work Plan

**2.0 SUMMARY OF WORK COMPLETED (07/14-12/14)**

The following occurred:

Leachate pump maintenance – 10-01/14  
Quarterly inspection – 09/23/14  
2nd SA GW event – 11/04/14  
Quarterly inspection – 12/22/14

LEACHATE SUMMARY	
July	14,000 gals
August	9,000 gals
September	2,000 gals
October	10,000 gals
November	5,000 gals
December	22,500 gals
Total	62,500 gals

GAS WELL TUNING	
3 Qtr	9/23/14
4 Qtr	12/22/14

The (09/23/14; 12/12/14) quarterly inspections and (09/23/14; 12/22/14) gas probe monitoring forms are attached. See attached system downtime and maintenance reports.

### **3.0 90 DAY SCHEDULE(S) WORK PLANNED (01/15-06/15)**

The next semi-annual report submittal is in July 2015.

Turn off leachate pumps at wells begin pilot study 02/03/15  
Qtrly inspection – 03/15  
Qtrly gas probes – 03/15  
Annual Report – 04/15  
1st SA GW event – 05/15  
Qtrly inspection - 06/15  
Qtrly gas probes – 06/15  
SA Progress Report – 07/15

**4.0 SCHEDULE VARIANCES FROM APPROVED RA PROJECT SCHEDULE**

No significant activity this reporting period.

**5.0 SUMMARY OF GROUNDWATER ACTIVITY PER UAO V-W-98-C-465 DURING THIS PERIOD**

No significant activity.

**6.0 SUMMARY AND DISCUSSION OF ALL APPROVED AND UNAPPROVED CHANGES MADE IN THE RA DURING THIS PERIOD**

WM initiated a dialogue with USEPA about the postponed requirement for pump & treat at the site. WM requested information and guidance from USEPA concerning an MNA submittal and possible remedy amendment. In a 12/9/14 letter, USEPA proposed a pilot study and requested that WM draft a work plan. WM submitted a work plan in January 2015. The work plan was approved 1/27/15. WM has been monitoring the gas well field on a self-imposed monthly basis. WM has changed the gas well field tuning to the frequency in the O&M Plan [Qtrly].

**7.0 SUMMARY OF PROBLEMS/DELAYS OR POTENTIAL PROBLEMS/DELAYS ENCOUNTERED DURING THIS PERIOD**

No significant issues.

**8.0 ACTIONS BEING TAKEN TO RECTIFY PROBLEMS/DELAYS**

See attached downtime reports.

**9.0 CHANGES IN PERSONNEL DURING THIS REPORTING PERIOD**

No changes in personnel.

**10.0 PROJECTED WORK FOR THE NEXT REPORTING PERIOD**

See items in Section 3 above.

**11.0 COPIES OF REPORTS AND SAMPLING RESULTS GENERATED DURING THIS PERIOD**

See attached downtime, gas and quarterly inspection reports.

Please contact Robin Jones regarding this submittal at 937-318-5342 or at [rjones2@wm.com](mailto:rjones2@wm.com).

Respectfully,



Robin L. Jones  
District Manager  
WM Closed Sites  
Powell Road Landfill Project Coordinator

attachment

cc: Scott Glum, OEPA/SWDO/DERR  
PRL Distribution

**APPENDIX B.**

**POST-CLOSURE QUARTERLY INSPECTION FORMS  
(AND RELATED SYSTEMS INSPECTION AND  
MAINTENANCE FORMS)**

**POST-CLOSURE QUARTERLY INSPECTION FORM**

**Powell Road Landfill**

Date:	3/11/2014	Last Inspection Date:	12/10/2013
Landfill Type:	Closed Municipal/CERCLA	Evaluator:	TOM MILLER
Total Acreage: 76	76	Filled Acreage:	38
Date Closed: 1984	1984	Date Capped:	1985 - 2000

	GOOD	ADEQUATE	ATTENTION	NOT APPLICABLE
<b>SECURITY &amp; ACCESS:</b>				
1. Perimeter Fencing		✓		
2. Signs Posted	✓			
3. Access Road	✓			
4. Undesirable Uses Prevented	✓			
<b>COVER &amp; VEGETATION:</b>				
1. Final Cover Erosion	✓			
2. Top Slope Good Drainage	✓			
3. Side Slope Good Drainage	✓			
4. Evidence of Gas or Leachate	✓			
5. Vegetation Quality & Density	✓			
<b>DRAINAGE:</b>				
1. Appropriate Runoff Controls		✓		
2. Diversion Ditches		✓		
3. Perimeter Ditches		✓		
4. Perimeter Stone		✓		
5. Outlet Structures		✓		
6. Roads	✓			
<b>GW MONITORING WELLS:</b>				
1. Construction Integrity	✓			
2. Security of Wells	✓			
3. Identification of Wells	✓			
<b>LEACHATE &amp; GAS SYSTEMS:</b>				
1. Collection Sumps/Risers	✓			
2. Electrical Components	✓			
3. Leachate Pad Loading	✓			
4. Storage Tank	✓			
5. Security of System		✓		
6. Flare/Blower Operation	✓			
7. Extraction Wells/Pumps	✓			
8. Mechanical Components	✓			
9. Gas Probes	✓			
9. Evidence of Odors/Migration	✓			
10. Autodialer	✓			

**COMMENTS:**

--

# Fence, Signs, Gates, and Locks Inspection Sheet

Landfill Identification:	Powell Rd	Landfill Owner/Client:	Robin Jones
Technician:	TOM MILLER	Landfill Location:	Huber Heights
Date of Inspection:	March 11, 2014		

<b>Property Perimeter Fence Inspection Data:</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Are all fence posts straight & free of damage:		✓	No Comments
Are all fence panels in good condition (no breaks in the fence):	✓		No Comments
Are all fence panels securely fastened to all fence posts:	✓		No Comments
Does the fence have barb wire runners installed atop the fence:	✓		No Comments
If so, are all barb wire hangers in good condition and in place:	✓		No Comments
And are all barb wire strands in good condition and in place:		✓	No Comments
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓		No Comments
Are all signs clearly legible and in good condition:	✓		No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓		See Below

<b>Flare / UST Station Fence Inspection Data:</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Are all fence posts straight & free of damage:	✓		No Comments
Are all fence panels in good condition (no breaks in the fence):	✓		No Comments
Are all fence panels securely fastened to all fence posts:	✓		No Comments
Does the fence have barb wire runners installed atop the fence:	✓		No Comments
If so, are all barb wire hangers in good condition and in place:	✓		No Comments
And are all barb wire strands in good condition and in place:	✓		No Comments
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓		No Comments
Are all signs clearly legible and in good condition:	✓		No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓		No Comments

<b>Man way and Main Site Entrance Gates Inspection Data:</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Are all gates in good condition:	✓		No Comments
Are all gate hinges in good condition:	✓		No Comments
Do all gates close completely and evenly:	✓		No Comments
Are all gates locked only with approved site locks:	✓		No Comments
Are all security chains heavy duty & in good condition:	✓		No Comments
Are all security chains tightly wrapped twice around the gate & the support pole:	✓		No Comments
Are all required signs attached to the main entrance site gate(s):	✓		No Comments
Are all required signs attached to the man way gate(s):	✓		No Comments

**Additional Comments:** All fencing is adequate at this time.



## SURFACE WATER CONTROL INSPECTION LOG

Date Filed: \_\_\_\_\_

Ohio EPA Storm Water Construction General Permit No. \_\_\_\_\_  
Powell Road Landfill, Montgomery County, Ohio

Date of Inspection: 3/11/14

Name of Inspector & Title: TOM MILLER-LANDFILL SUPERVISOR

Affiliation: WM EMPLOYEE

Qualifications: \_\_\_\_\_

Weather Conditions: wet overcast 58 degrees

Completely fill in the information required below and sign where noted. Forward to Remedial Project Manager for filing.

1. Are measures to prevent erosion and sediment control adequate and properly implemented: YES  
(If no, describe observations, repairs needed, design changes needed, or other actions below.)
2. Are non structural practices (surface grading, vegetative cover, mulch, channel riprap) adequate: YES
3. Are structural practices (silt fencing and ditch checks) adeq N/A

Observations (NOTE: location, problem, erosion, sediment build up, damage, etc.):

A. Stabilization/Nonstructural Practices.

1. Surface Grading: In good condition  
\_\_\_\_\_

Actions to correct problem: N/A  
\_\_\_\_\_

2. Vegetative Cover In good condition  
\_\_\_\_\_

Actions to correct problem: N/A  
\_\_\_\_\_

3. Erosion Control Blanket and Mulch(NOTE: erosion control blankets and mulch are temporary controls and are designed to degrade overtime) In good condition

Actions to correct problem: N/A  
\_\_\_\_\_

Riprap Channel Lining: In good condition  
\_\_\_\_\_

Inspection Log - Cont.

Date: 3/11/2014

Actions to correct problem: \_\_\_\_\_ N/A

B. Structural Practices.

1. Silt fencing (NOTE: silt fencing is designed as a temporary control measure and will be removed once the vegetation is established): \_\_\_\_\_ N/A

Actions to correct problems: \_\_\_\_\_ N/A

2. Ditch checks (NOTE: ditch checks are designed as a temporary control measure and will be removed once the vegetation is established): \_\_\_\_\_ In good condition

Actions to correct problems: \_\_\_\_\_ N/A

- C. Discharge locations (NOTE: any discharge of sediments off site): \_\_\_\_\_ No

Actions to correct problems: \_\_\_\_\_ N/A

- D. Vehicles Tracking Sediment Off-Site NO

Actions to correct problem: \_\_\_\_\_ N/A

- E. Status of Previous Maintenance Activities (NOTE: location and problems):

Actions to correct problems: \_\_\_\_\_ N/A

F. Other Remarks: \_\_\_\_\_ N/A

Inspector's Signature: \_\_\_\_\_ Signature on file

Date: 3/11/2014

**Waste Management of Ohio, Inc.  
Closed Site Management Group  
Landfill Systems Equipment  
Inspection Report**

Date: 3/11+31/2014

Location: Powell Rd Landfill Huber Heights, OH

Inspector: Jesse Pertee

Inspector: Tom Miller

Landfill Gas Collection System:		YES	NO	NA	Comments
LFG Blower	Operating	x			No additional comments
	Vibrations Noticed		x		No additional comments
	Properly Greased	x			No additional comments
	Excessive Noise		x		No additional comments
Blower Motor	Properly Greased	x			No additional comments
	Excessive Noise		x		No additional comments
LFG Flare	Operating Properly	x			No additional comments
	Igniter Functioning Properly	x			No additional comments
	Pilot Fuel Operating Properly	x			No additional comments
	Propane Supply Adequate	x			No additional comments
Control Panel	Temperature Display Present	x			No additional comments
	Display Lights Functioning	x			No additional comments
	Blower Amps Functioning	x			No additional comments
	Omnisite Ready / Functioning	x			No additional comments
Electric Valves	Open During Operation	x			No additional comments
	Closed During Shut-Down	x			No additional comments

**Air Supply:**

Compressor	Maintaining Pressure	x			No additional comments
	Vibrations Noticed		x		No additional comments
	Proper Oil Level	x			No additional comments
	Excessive Noise	x			No additional comments

**Leachate System:**

Pump Stations	Sump Pumps Functioning	x			No additional comments
	Fluids at an Acceptable Level	x			No additional comments
	Control Panel OK	x			Disabled
	Air Supply OK	x			No additional comments
Storage Tank	Fluids at an Acceptable Level	x			No additional comments
	Proper Valve operation	x			No additional comments

**LFG Dual Extraction Wells:**

LFG Wells	Wellhead in Good Condition	x			No additional comments
	Pump Connections Secure	x			No additional comments
	Proper Air Supply	x			No additional comments
	Cycle Counter Functioning	x			No additional comments
	Observed Pump Cycle				No additional comments

Comments: \_\_\_\_\_ No additional comments.

The Project Manager will send an email to Robin Jones stating what site(s) monitored, what inspections were performed, and any issues that need to be addressed or discussed by email.
--

**POST-CLOSURE QUARTERLY INSPECTION FORM**

**Powell Road Landfill**

Date:	6/30/2014	Last Inspection Date:	3/11/2014
Landfill Type:	Closed Municipal/CERCLA	Evaluator:	TOM MILLER
Total Acreage: 76	76	Filled Acreage:	38
Date Closed: 1984	1984	Date Capped:	1985 - 2000

	GOOD	ADEQUATE	ATTENTION	NOT APPLICABLE
<b>SECURITY &amp; ACCESS:</b>				
1. Perimeter Fencing		✓		
2. Signs Posted	✓			
3. Access Road	✓			
4. Undesirable Uses Prevented	✓			
<b>COVER &amp; VEGETATION:</b>				
1. Final Cover Erosion	✓			
2. Top Slope Good Drainage	✓			
3. Side Slope Good Drainage	✓			
4. Evidence of Gas or Leachate	✓			
5. Vegetation Quality & Density	✓			
<b>DRAINAGE:</b>				
1. Appropriate Runoff Controls		✓		
2. Diversion Ditches		✓		
3. Perimeter Ditches		✓		
4. Perimeter Stone		✓		
5. Outlet Structures		✓		
6. Roads	✓			
<b>GW MONITORING WELLS:</b>				
1. Construction Integrity	✓			
2. Security of Wells	✓			
3. Identification of Wells	✓			
<b>LEACHATE &amp; GAS SYSTEMS:</b>				
1. Collection Sumps/Risers	✓			
2. Electrical Components	✓			
3. Leachate Pad Loading	✓			
4. Storage Tank	✓			
5. Security of System		✓		
6. Flare/Blower Operation	✓			
7. Extraction Wells/Pumps	✓			
8. Mechanical Components	✓			
9. Gas Probes	✓			
9. Evidence of Odors/Migration	✓			
10. Autodialer	✓			

**COMMENTS:**

--

# Fence, Signs, Gates, and Locks Inspection Sheet

Landfill Identification:	Powell Rd	Landfill Owner/Client:	Robin Jones
Technician:	TOM MILLER	Landfill Location:	Huber Heights
Date of Inspection:	June 30, 2014		

<b>Property Perimeter Fence Inspection Data:</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Are all fence posts straight & free of damage:		√	No Comments
Are all fence panels in good condition (no breaks in the fence):	√		No Comments
Are all fence panels securely fastened to all fence posts:	√		No Comments
Does the fence have barb wire runners installed atop the fence:	√		No Comments
If so, are all barb wire hangers in good condition and in place:	√		No Comments
And are all barb wire strands in good condition and in place:		√	No Comments
Are there any signs of trespassing:		√	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		√	No Comments
Are all required signs attached to the fence in 150 ft intervals:	√		No Comments
Are all signs clearly legible and in good condition:	√		No Comments
Are all fence panels and barb wire runners clear of vegetation:	√		See Below

<b>Flare / UST Station Fence Inspection Data:</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Are all fence posts straight & free of damage:	√		No Comments
Are all fence panels in good condition (no breaks in the fence):	√		No Comments
Are all fence panels securely fastened to all fence posts:	√		No Comments
Does the fence have barb wire runners installed atop the fence:	√		No Comments
If so, are all barb wire hangers in good condition and in place:	√		No Comments
And are all barb wire strands in good condition and in place:	√		No Comments
Are there any signs of trespassing:		√	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		√	No Comments
Are all required signs attached to the fence in 150 ft intervals:	√		No Comments
Are all signs clearly legible and in good condition:	√		No Comments
Are all fence panels and barb wire runners clear of vegetation:	√		No Comments

<b>Man way and Main Site Entrance Gates Inspection Data:</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Are all gates in good condition:	✓		No Comments
Are all gate hinges in good condition:	✓		No Comments
Do all gates close completely and evenly:	✓		No Comments
Are all gates locked only with approved site locks:	✓		No Comments
Are all security chains heavy duty & in good condition:	✓		No Comments
Are all security chains tightly wrapped twice around the gate & the support pole:	✓		No Comments
Are all required signs attached to the main entrance site gate(s):	✓		No Comments
Are all required signs attached to the man way gate(s):	✓		No Comments

**Additional Comments:** All fencing is adequate at this time.

## SURFACE WATER CONTROL INSPECTION LOG

Date Filed: \_\_\_\_\_

Ohio EPA Storm Water Construction General Permit No. \_\_\_\_\_  
Powell Road Landfill, Montgomery County, Ohio

Date of Inspection: 6/30/14

Name of Inspector & Title: TOM MILLER-LANDFILL SUPERVISOR

Affiliation: WM EMPLOYEE

Qualifications \_\_\_\_\_

Weather Conditions: wet overcast 58 degrees

Completely fill in the information required below and sign where noted. Forward to Remedial Project Manager for filing.

1. Are measures to prevent erosion and sediment control adequate and properly implemented: YES  
(If no, describe observations, repairs needed, design changes needed, or other actions below.)
2. Are non structural practices (surface grading, vegetative cover, mulch, channel riprap) adequate: YES
3. Are structural practices (silt fencing and ditch checks) adeq N/A

Observations (NOTE: location, problem, erosion, sediment build up, damage, etc.):

A. Stabilization/Nonstructural Practices.

1. Surface Grading: In good condition

Actions to correct problem: N/A

2. Vegetative Cover In good condition

Actions to correct problem: N/A

3. Erosion Control Blanket and Mulch(NOTE: erosion control blankets and mulch are temporary controls and are designed to degrade overtime) In good condition

Actions to correct problem: N/A

Riprap Channel Lining: In good condition

**Inspection Log - Cont.**Date: 6/30/2014Actions to correct problem: N/A**B. Structural Practices.**

1. Silt fencing (NOTE: silt fencing is designed as a temporary control measure and will be removed once the vegetation is established): N/A

Actions to correct problems: N/A

2. Ditch checks (NOTE: ditch checks are designed as a temporary control measure and will be removed once the vegetation is established): In good condition

Actions to correct problems: N/A

- C. Discharge locations (NOTE: any discharge of sediments off site): No

Actions to correct problems: N/A

- D. Vehicles Tracking Sediment Off-Site NO

Actions to correct problem: N/A

- E. Status of Previous Maintenance Activities (NOTE: location and problems):

Actions to correct problems: N/AF. Other Remarks: N/A**Inspector's Signature:** Signature on fileDate: 6/30/2014

**Waste Management, Inc.  
Closed Site Management Group  
Landfill Systems Equipment  
Inspection Report**

Date: 6/30/2014

Location: Powell Rd Landfill Huber Heights, OH

Inspector: Tom Miller (WM)

Landfill Gas Collection System:		YES	NO	NA	Comments
LFG Blower	Operating		x		System down due to LCS
	Vibrations Noticed		x		System down due to LCS
	Properly Greased	x			No additional comments
	Excessive Noise		x		System down due to LCS
Blower Motor	Properly Greased	x			No additional comments
	Excessive Noise		x		System down due to LCS
LFG Flare	Operating Properly		x		System down due to LCS
	Igniter Functioning Properly		x		System down due to LCS
	Pilot Fuel Operating Properly		x		System down due to LCS
	Propane Supply Adequate	x			System down due to LCS
Control Panel	Temperature Display Present	x			No additional comments
	Display Lights Functioning	x			No additional comments
	Blower Amps Functioning	x			No additional comments
	Omnisite Ready / Functioning	x			No additional comments
Electric Valves	Open During Operation	x			System down due to LCS
	Closed During Shut-Down	x			System down due to LCS

Date: 6/18/2014

Location: Powell Rd Landfill Huber Heights, OH

Inspector: J. Pertee (SAS)

<b>Air Supply:</b>					
Compressor	Maintaining Pressure		x		System down due to LCS
	Vibrations Noticed		x		System down due to LCS
	Proper Oil Level	x			System down due to LCS
	Excessive Noise		x		System down due to LCS

<b>Leachate System:</b>					
Pump Stations	Sump Pumps Functioning		x		System down due to LCS
	Fluids at an Acceptable Level		x		System down due to LCS
	Control Panel OK	x			System down due to LCS
	Air Supply OK		x		System down due to LCS
Storage Tank	Fluids at an Acceptable Level	x			No additional comments
	Proper Valve operation	x			No additional comments

<b>LFG Dual Extraction Wells:</b>					
LFG Wells	Wellhead in Good Condition		x		No additional comments
	Pump Connections Secure	x			No additional comments
	Proper Air Supply		x		System down due to LCS
	Cycle Counter Functioning		x		System down due to LCS
	Observed Pump Cycle		x		System down due to LCS

Comments:	Approximately 7' Liquid in Tank
The Project Manager will send an email to Robin Jones stating what site(s) monitored, what inspections were performed, and any issues that need to be addressed or discussed by email.	

**POST-CLOSURE QUARTERLY INSPECTION FORM**

**Powell Road Landfill**

Date:	9/23/2014	Last Inspection Date:	6/30/2014
Landfill Type:	Closed Municipal/CERCLA	Evaluator:	TOM MILLER
Total Acreage: 76	76	Filled Acreage:	38
Date Closed: 1984	1984	Date Capped:	1985 - 2000

	GOOD	ADEQUATE	ATTENTION	NOT APPLICABLE
<b>SECURITY &amp; ACCESS:</b>				
1. Perimeter Fencing		✓		
2. Signs Posted	✓			
3. Access Road	✓			
4. Undesirable Uses Prevented	✓			
<b>COVER &amp; VEGETATION:</b>				
1. Final Cover Erosion	✓			
2. Top Slope Good Drainage	✓			
3. Side Slope Good Drainage	✓			
4. Evidence of Gas or Leachate	✓			
5. Vegetation Quality & Density	✓			
<b>DRAINAGE:</b>				
1. Appropriate Runoff Controls		✓		
2. Diversion Ditches		✓		
3. Perimeter Ditches		✓		
4. Perimeter Stone		✓		
5. Outlet Structures		✓		
6. Roads	✓			
<b>GW MONITORING WELLS:</b>				
1. Construction Integrity	✓			
2. Security of Wells	✓			
3. Identification of Wells	✓			
<b>LEACHATE &amp; GAS SYSTEMS:</b>				
1. Collection Sumps/Risers	✓			
2. Electrical Components	✓			
3. Leachate Pad Loading	✓			
4. Storage Tank	✓			
5. Security of System		✓		
6. Flare/Blower Operation	✓			
7. Extraction Wells/Pumps	✓			
8. Mechanical Components	✓			
9. Gas Probes	✓			
10. Evidence of Odors/Migration	✓			

COMMENTS:

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### Fence, Signs, Gates, and Locks Inspection Sheet

Landfill Identification: Powell Rd      Landfill Owner/Client: Robin Jones  
 Technician: TOM MILLER      Landfill Location: Huber Heights  
 Date of Inspection: September 23, 2014

<b>Property Perimeter Fence Inspection Data:</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Are all fence posts straight & free of damage:		✓	See Below
Are all fence panels in good condition (no breaks in the fence):	✓		No Comments
Are all fence panels securely fastened to all fence posts:	✓		No Comments
Does the fence have barb wire runners installed atop the fence:	✓		No Comments
If so, are all barb wire hangers in good condition and in place:	✓		See Below
And are all barb wire strands in good condition and in place:		✓	See Below
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓		No Comments
Are all signs clearly legible and in good condition:	✓		No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓		See Below

<b>Flare / UST Station Fence Inspection Data:</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Are all fence posts straight & free of damage:	✓		No Comments
Are all fence panels in good condition (no breaks in the fence):	✓		No Comments
Are all fence panels securely fastened to all fence posts:	✓		No Comments
Does the fence have barb wire runners installed atop the fence:	✓		No Comments
If so, are all barb wire hangers in good condition and in place:	✓		No Comments
And are all barb wire strands in good condition and in place:	✓		No Comments
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓		No Comments
Are all signs clearly legible and in good condition:	✓		No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓		No Comments

<b>Man way and Main Site Entrance Gates Inspection Data:</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Are all gates in good condition:	✓		No Comments
Are all gate hinges in good condition:	✓		No Comments
Do all gates close completely and evenly:	✓		No Comments
Are all gates locked only with approved site locks:	✓		No Comments
Are all security chains heavy duty & in good condition:	✓		No Comments
Are all security chains tightly wrapped twice around the gate & the support pole:	✓		No Comments
Are all required signs attached to the main entrance site gate(s):	✓		No Comments
Are all required signs attached to the man way gate(s):	✓		No Comments

<b>Additional Comments:</b>
Fence along river is leaning and the barbwire and the a few of the holder have been bent due to trees falling but are not in need of repair at this time

## SURFACE WATER CONTROL INSPECTION LOG

Date Filed: \_\_\_\_\_

Ohio EPA Storm Water Construction General Permit No. \_\_\_\_\_.  
Powell Road Landfill, Montgomery County, Ohio

Date of Inspection: 9/23/14

Name of Inspector & Title: TOM MILLER-LANDFILL SUPERVISOR

Affiliation: WM EMPLOYEE

Qualifications \_\_\_\_\_

Weather Conditions: Dry 77 degrees

Completely fill in the information required below and sign where noted. Forward to Remedial Project Manager for filing.

1. Are measures to prevent erosion and sediment control adequate and properly implemented: YES  
(If no, describe observations, repairs needed, design changes needed, or other actions below.)
2. Are non structural practices (surface grading, vegetative cover, mulch, channel riprap) adequate: YES
3. Are structural practices (silt fencing and ditch checks) adeq N/A

**Observations** (NOTE: location, problem, erosion, sediment build up, damage, etc.):

**A. Stabilization/Nonstructural Practices.**

1. Surface Grading: In good condition

Actions to correct problem: N/A

2. Vegetative Cover In good condition

Actions to correct problem: N/A

3. Erosion Control Blanket and Mulch(NOTE: erosion control blankets and mulch are temporary controls and are designed to degrade overtime) In good condition

Actions to correct problem: N/A

Riprap Channel Lining: In good condition

**Inspection Log - Cont.**Date: 9/23/2014Actions to correct problem: N/A**B. Structural Practices.**

1. Silt fencing (NOTE: silt fencing is designed as a temporary control measure and will be removed once the vegetation is established): N/A

Actions to correct problems: N/A

2. Ditch checks (NOTE: ditch checks are designed as a temporary control measure and will be removed once the vegetation is established): In good condition

Actions to correct problems: N/A

- C. Discharge locations (NOTE: any discharge of sediments off site): No

Actions to correct problems: N/A

- D. Vehicles Tracking Sediment Off-Site NO

Actions to correct problem: N/A

- E. Status of Previous Maintenance Activities (NOTE: location and problems):

Actions to correct problems: N/AF. Other Remarks: N/A**Inspector's Signature:** Signature on fileDate: 9/23/2014

Waste Management, Inc.  
 Closed Site Management Group  
 Landfill Systems Equipment  
 Inspection Report

Date: 9/23/2014

Location: Powell Rd Landfill Huber Heights, OH

Inspector: Tom Miller (WM)

Landfill Gas Collection System:		YES	NO	Comments
LFG Blower	Operating	x		
	Vibrations Noticed	x		
	Properly Greased	x		
	Excessive Noise	x		
Blower Motor	Properly Greased	x		
	Excessive Noise		x	
LFG Flare	Operating Properly	x		
	Igniter Functioning Properly	x		
	Pilot Fuel Operating Properly	x		
	Propane Supply Adequate	x		
Control Panel	Temperature Display Present	x		
	Display Lights Functioning	x		
	Blower Amps Functioning	x		
	Omnisite Ready / Functioning	x		
Electric Valves	Open During Operation	x		
	Closed During Shut-Down	x		

Date: 9/30/2014  
 Inspector: J. Pertee

Location: Powell Rd Landfill Huber Heights, OH

**Air Supply:**

Compressor	Maintaining Pressure	Yes			None
	Vibrations Noticed		No		None
	Proper Oil Level	Yes			None
	Excessive Noise		No		None

**Leachate System:**

Pump Stations	Sump Pumps Functioning	Yes			None
	Fluids at an Acceptable Level	Yes			None
	Control Panel OK	Yes			None
	Air Supply OK	Yes			None
Storage Tank	Fluids at an Acceptable Level	Yes			None
	Proper Valve operation	Yes			None

**LFG Dual Extraction Wells:**

LFG Wells	Wellhead in Good Condition	Yes			None
	Pump Connections Secure	Yes			None
	Proper Air Supply	Yes			Repaired several air supply lines.
	Cycle Counter Functioning	Yes			None
	Observed Pump Cycle	Yes			None

Comments:


**POST-CLOSURE QUARTERLY INSPECTION FORM**

**Powell Road Landfill**

Date:	12/22/2014	Last Inspection Date:	9/23/2014
Landfill Type:	Closed Municipal/CERCLA	Evaluator:	TOM MILLER
Total Acreage:	76	Filled Acreage:	38
Date Closed:	1984	Date Capped:	1985 - 2000

	GOOD	ADEQUATE	ATTENTION	NOT APPLICABLE
<b>SECURITY &amp; ACCESS:</b>				
1. Perimeter Fencing		✓		
2. Signs Posted	✓			
3. Access Road	✓			
4. Undesirable Uses Prevented	✓			
<b>COVER &amp; VEGETATION:</b>				
1. Final Cover Erosion	✓			
2. Top Slope Good Drainage	✓			
3. Side Slope Good Drainage	✓			
4. Evidence of Gas or Leachate	✓			
5. Vegetation Quality & Density	✓			
<b>DRAINAGE:</b>				
1. Appropriate Runoff Controls		✓		
2. Diversion Ditches		✓		
3. Perimeter Ditches		✓		
4. Perimeter Stone		✓		
5. Outlet Structures		✓		
6. Roads	✓			
<b>GW MONITORING WELLS:</b>				
1. Construction Integrity	✓			
2. Security of Wells	✓			
3. Identification of Wells	✓			
<b>LEACHATE &amp; GAS SYSTEMS:</b>				
1. Collection Sumps/Risers	✓			
2. Electrical Components	✓			
3. Leachate Pad Loading	✓			
4. Storage Tank	✓			
5. Security of System		✓		
6. Flare/Blower Operation	✓			
7. Extraction Wells/Pumps	✓			
8. Mechanical Components	✓			
9. Gas Probes	✓			
9. Evidence of Odors/Migration	✓			
10. Autodialer	✓			

COMMENTS:

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**Fence, Signs, Gates, and Locks Inspection Sheet**

Landfill Identification:	Powell Rd	Landfill Owner/Client:	Robin Jones
Technician:	TOM MILLER	Landfill Location:	Huber Heights
Date of Inspection:	December 22, 2014		

<b>Property Perimeter Fence Inspection Data:</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Are all fence posts straight & free of damage:		✓	See Below
Are all fence panels in good condition (no breaks in the fence):	✓		No Comments
Are all fence panels securely fastened to all fence posts:	✓		No Comments
Does the fence have barb wire runners installed atop the fence:	✓		No Comments
If so, are all barb wire hangers in good condition and in place:		✓	See Below
And are all barb wire strands in good condition and in place:		✓	See Below
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓		No Comments
Are all signs clearly legible and in good condition:	✓		No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓		No Comments

<b>Flare / UST Station Fence Inspection Data:</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Are all fence posts straight & free of damage:	✓		No Comments
Are all fence panels in good condition (no breaks in the fence):	✓		No Comments
Are all fence panels securely fastened to all fence posts:	✓		No Comments
Does the fence have barb wire runners installed atop the fence:	✓		No Comments
If so, are all barb wire hangers in good condition and in place:	✓		No Comments
And are all barb wire strands in good condition and in place:	✓		No Comments
Are there any signs of trespassing:		✓	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		✓	No Comments
Are all required signs attached to the fence in 150 ft intervals:	✓		No Comments
Are all signs clearly legible and in good condition:	✓		No Comments
Are all fence panels and barb wire runners clear of vegetation:	✓		No Comments

<b>Man way and Main Site Entrance Gates Inspection Data:</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Are all gates in good condition:	✓		No Comments
Are all gate hinges in good condition:	✓		No Comments
Do all gates close completely and evenly:	✓		No Comments
Are all gates locked only with approved site locks:	✓		No Comments
Are all security chains heavy duty & in good condition:	✓		No Comments
Are all security chains tightly wrapped twice around the gate & the support pole:	✓		No Comments
Are all required signs attached to the main entrance site gate(s):	✓		No Comments
Are all required signs attached to the man way gate(s):	✓		No Comments

<b>Additional Comments:</b>
Fence along river is leaning and the barbwire and the a few of the holder have been bent due to trees falling but are not in need of repair at this time

## SURFACE WATER CONTROL INSPECTION LOG

Date Filed: \_\_\_\_\_

Ohio EPA Storm Water Construction General Permit No. \_\_\_\_\_.  
Powell Road Landfill, Montgomery County, Ohio

Date of Inspection: 9/23/14

Name of Inspector & Title: TOM MILLER-LANDFILL SUPERVISOR

Affiliation: WM EMPLOYEE

Qualifications \_\_\_\_\_

Weather Conditions: Dry 28 degrees

Completely fill in the information required below and sign where noted. Forward to Remedial Project Manager for filing.

1. Are measures to prevent erosion and sediment control adequate and properly implemented: YES  
(If no, describe observations, repairs needed, design changes needed, or other actions below.)
2. Are non structural practices (surface grading, vegetative cover, mulch, channel riprap) adequate: YES
3. Are structural practices (silt fencing and ditch checks) adeq N/A

Observations (NOTE: location, problem, erosion, sediment build up, damage, etc.):

A. Stabilization/Nonstructural Practices.

1. Surface Grading: In good condition

Actions to correct problem: N/A

2. Vegetative Cover In good condition

Actions to correct problem: N/A

3. Erosion Control Blanket and Mulch(NOTE: erosion control blankets and mulch are temporary controls and are designed to degrade overtime) In good condition

Actions to correct problem: N/A

Riprap Channel Lining: In good condition

**Inspection Log - Cont.**Date: 12/22/2014Actions to correct problem: \_\_\_\_\_ N/A \_\_\_\_\_  
\_\_\_\_\_**B. Structural Practices.**

1. Silt fencing (NOTE: silt fencing is designed as a temporary control measure and will be removed once the vegetation is established): \_\_\_\_\_ N/A \_\_\_\_\_  
\_\_\_\_\_

Actions to correct problems: \_\_\_\_\_ N/A \_\_\_\_\_  
\_\_\_\_\_

2. Ditch checks (NOTE: ditch checks are designed as a temporary control measure and will be removed once the vegetation is established): \_\_\_\_\_ In good condition \_\_\_\_\_  
\_\_\_\_\_

Actions to correct problems: \_\_\_\_\_ N/A \_\_\_\_\_  
\_\_\_\_\_

- C. Discharge locations (NOTE: any discharge of sediments off site): \_\_\_\_\_ No \_\_\_\_\_  
\_\_\_\_\_

Actions to correct problems: \_\_\_\_\_ N/A \_\_\_\_\_  
\_\_\_\_\_

- D. Vehicles Tracking Sediment Off-Site      NO  
Actions to correct problem: \_\_\_\_\_ N/A \_\_\_\_\_  
\_\_\_\_\_

- E. Status of Previous Maintenance Activities (NOTE: location and problems):  
\_\_\_\_\_

Actions to correct problems: \_\_\_\_\_ N/A \_\_\_\_\_  
\_\_\_\_\_

- F. Other Remarks: \_\_\_\_\_ N/A \_\_\_\_\_  
\_\_\_\_\_

**Inspector's Signature:** \_\_\_\_\_ Signature on fileDate: 12/22/2014

**vvaste Management, Inc.**  
**Closed Site Management Group**  
**Landfill Systems Equipment**  
**Inspection Report**

Date: 12/22/2014

Location: Powell Rd Landfill Huber Heights, OH

Inspector: Tom Miller (WM)

<u>Landfill Gas Collection System:</u>		YES	NO	Comments
LFG Blower	Operating		x	
	Vibrations Noticed	x		Down for repairs
	Properly Greased	x		by
	Excessive Noise	x		CBI
Blower Motor	Properly Greased	x		
	Excessive Noise		x	
LFG Flare	Operating Properly		x	
	Igniter Functioning Properly	x		
	Pilot Fuel Operating Properly	x		
	Propane Supply Adequate	x		
Control Panel	Temperature Display Present	x		
	Display Lights Functioning	x		
	Blower Amps Functioning	x		
	Omnisite Ready / Functioning	x		
Electric Valves	Open During Operation	x		
	Closed During Shut-Down	x		

Date: 12/22/2014

Location: Powell Rd Landfill Huber Heights, OH

Inspector: T. Miller

<b>Air Supply:</b>				
Compressor	Maintaining Pressure	x		
	Vibrations Noticed		x	
	Proper Oil Level	x		
	Excessive Noise	x		

<b>Leachate System:</b>				
Pump Stations	Sump Pumps Functioning	x		
	Fluids at an Acceptable Level	x		
	Control Panel OK	x		
	Air Supply OK	x		
Storage Tank	Fluids at an Acceptable Level	x		No additional comments
	Proper Valve operation	x		No additional comments

<b>LFG Dual Extraction Wells:</b>				
LFG Wells	Wellhead in Good Condition	x		No additional comments
	Pump Connections Secure	x		No additional comments
	Proper Air Supply		x	Repairs need on some hoses
	Cycle Counter Functioning	x		
	Observed Pump Cycle	x		

Comments:

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**APPENDIX C.**

**ENVIRONMENTAL COVENANT VERIFICATION**

ENVIRONMENTAL COVENANT COMPLIANCE REPORTING  
POWELL ROAD LANDFILL, MONTGOMERY COUNTY, OHIO  
U.S. EPA DOCKET NO. V-W-98-C-466 & V-W-98-C-465

This document has been prepared to fulfill the annual reporting requirement of the Environmental Covenant (EC) (Document SP-I-10-059281, Montgomery County, Ohio) for the Powell Road Landfill in accordance with Section 10 of the EC.

In 2014, Waste Management of Ohio, Inc. remained the owner of the Powell Road Landfill. The EC activity and use limitations remain in place and are in compliance with the EC.



Date: 3/19/15

Robin L. Jones

District Manager, WMO

## **APPENDIX D.**

**AUTO-DIALER CALL OUT SUMMARIES, DOWNTIME  
REPORTS, AND AUTO-DIALER PROTOCOL**

- Status History for Waste Management -Cincinnati -

Powell Rd

Wednesday, January 01, 2014 to Friday, January 31, 2014

**- Alarm History -**

Station	Device	Alarm Start	Alarm End	Alarm Duration	Flare Shutdown Time	Leachate Sys Shutdown Time	Corrective Action
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Input: 75% UST Level


LCS Well Shutdown

Powell Rd	25805	1/1/2014 11:59:16 PM	1/21/2014 6:18:24 AM	1664348			
Powell Rd	25805	1/24/2014 2:56:50 PM	1/28/2014 9:22:03 AM	325513			
Powell Rd	25805	1/28/2014 9:46:22 AM	1/31/2014 3:49:16 AM	237774			
				618:47:15			

Input: Compressor Low Pressure

Powell Rd	25805	1/1/2014 11:59:16 PM	1/31/2014 9:11:50 AM	2538754			
				705:12:34			

Input: Pilot failure

Powell Rd	25805	1/1/2014 11:59:16 PM	1/28/2014 9:37:15 AM	2281079			
Powell Rd	25805	1/28/2014 9:37:31 AM	1/31/2014 1:04:29 PM	271618			
				709:04:57			

Cycle Timer Shutdown (12Hrs. Daily)

Daily shutdown				None Automatic Flare Cycling Run 12Hrs off 12 Hrs Daily
Total	709:04:57	705:12:34		

Associated Shutdowns

**\*NOT ALL ALARMS SHUTDOWN THE SYSTEMS**

- Status History for Waste Management -Cincinnati -

Powell Rd

Saturday, February 01, 2014 to Friday, February 28, 2014

**- Alarm History -**

Station	Device	Alarm Start	Alarm End	Alarm Duration	Flare Shutdown Time	Leachate Sys Shutdown Time	Corrective Action
Input: 75% UST Level							
Powell Rd	25805	2/2/2014 9:27:31 AM	2/4/2014 10:20:23 AM	175972			
				48:52:52			
LCS Well Shutdown							
Powell Rd	25805	2/3/2014 7:55:09 PM	2/6/2014 5:59:40 PM	252271			
Powell Rd	25805	2/21/2014 1:00:53 AM		773887			
				285:02:38			
Input: Compressor Low Pressure							
Powell Rd	25805	2/3/2014 8:09:02 PM	2/6/2014 6:23:35 PM	252873			
Powell Rd	25805	2/21/2014 1:15:29 AM		773011			
				284:58:04		284:58:04	
Input: Pilot failure							
Powell Rd	25805	2/3/2014 7:55:36 PM		2261004			
				628:03:24	628:03:24		
Cycle Timer Shutdown (12Hrs. Daily)							
Daily shutdown					24:00:00		None Automatic Flare Cycling Run 12Hrs off 12 Hrs Daily
Total				652:03:24	284:58:04		

Associated Shutdowns

\*NOT ALL ALARMS SHUTDOWN THE SYSTEMS

- Status History for Waste Management -Cincinnati -  
 Powell Rd  
 Saturday, March 01, 2014 to Monday, March 31, 2014

**- Alarm History -**

Station	Device	Alarm Start	Alarm End	Alarm Duration	Flare Shutdown Time	Leachate Sys Shutdown Time	Corrective Action
<b>Input: 75% UST Level</b>							
Powell Rd	25805	3/4/2014 12:38:04 PM	3/8/2014 8:51:44 AM	332020			
				92:13:40			
<b>LCS Well Shutdown</b>							
Powell Rd	25805	3/1/2014 11:59:33 PM	3/4/2014 7:53:51 AM	201258			
Powell Rd	25805	3/13/2014 2:54:54 PM	3/18/2014 9:08:22 PM	454408			
				182:07:46			
<b>Input: Compressor Low Pressure</b>							
Powell Rd	25805	3/1/2014 11:59:33 PM	3/4/2014 8:11:52 AM	202339			
Powell Rd	25805	3/13/2014 3:32:12 PM	3/18/2014 9:28:55 PM	453403			
				182:09:02		182:09:02	
<b>Input: Pilot failure</b>							
Powell Rd	25805	3/1/2014 11:59:33 PM	3/11/2014 9:18:13 AM	811120			
Powell Rd	25805	3/13/2014 2:55:22 PM	3/31/2014 9:18:19 AM	1534977			
				651:41:37	651:41:37		
<b>Cycle Timer Shutdown (12Hrs. Daily)</b>							
Daily shutdown				24		None Automatic Flare Cycling Run 12Hrs off 12 Hrs Daily	
				Total	675:41:37	182:09:02	

Associated Shutdowns

**\*NOT ALL ALARMS SHUTDOWN THE SYSTEMS**

- Status History for Waste Management -Cincinnati -  
 Powell Rd  
 Tuesday, April 01, 2014 to Wednesday, April 30, 2014

**- Alarm History -**

Station	Device	Alarm Start	Alarm End	Alarm Duration	Flare Shutdown Time	Leachate Sys Shutdown Time	Corrective Action
<b>Input: 75% UST Level</b>							
Powell Rd	25805	4/25/2014 2:43:42 PM	4/28/2014 8:16:52 AM	235990			
				65:33:10			
<b>LCS Well Shutdown</b>							
Powell Rd	25805	4/3/2014 7:22:21 PM	4/23/2014 4:05:48 AM	1673007			
Powell Rd	25805	4/28/2014 8:49:24 AM	4/28/2014 8:49:45 AM	21			
Powell Rd	25805	4/29/2014 3:32:01 PM		116819			
				497:10:47			
<b>Input: Compressor Low Pressure</b>							
Powell Rd	25805	4/3/2014 8:15:22 PM	4/25/2014 12:50:59 PM	1874137			
Powell Rd	25805	4/29/2014 4:45:34 PM		112406			
				551:49:03		551:49:03	
<b>Input: Pilot failure</b>							
Powell Rd	25805	4/3/2014 7:22:50 PM	4/23/2014 11:29:12 AM	1699582			
Powell Rd	25805	4/23/2014 11:33:11 AM	4/25/2014 1:00:32 PM	178041			
Powell Rd	25805	4/29/2014 3:32:28 PM		116792			
				554:00:15	554:00:15		
<b>Input: Primary Power</b>							
Powell Rd	25805	4/25/2014 12:08:31 PM	4/25/2014 1:00:32 PM	3121			
				00:52:01			
<b>Cycle Timer Shutdown (12Hrs. Daily)</b>							
Daily shutdown					76		None Automatic Flare Cycling Run 12Hrs off 12 Hrs Daily
				Total	630:00:15	551:49:03	

**Associated Shutdowns**

**\*NOT ALL ALARMS SHUTDOWN THE SYSTEMS**

## - Status History for Waste Management -Cincinnati -

Powell Rd

Thursday, May 01, 2014 to Saturday, May 31, 2014

## - Alarm History -

Station	Device	Alarm Start	Alarm End	Alarm Duration	Flare Shutdown Time	Leachate Sys Shutdown Time	Corrective Action
Input: 75% UST Level							
Powell Rd	25805	5/28/2014 6:19:36 PM	5/31/2014 2:26:49 PM	245233			
				68:07:13			
LCS Well Shutdown							
Powell Rd	25805	5/1/2014 12:00:00 AM	5/6/2014 4:52:17 PM	492737			
Powell Rd	25805	5/13/2014 7:41:57 AM	5/20/2014 1:22:47 AM	582050			
Powell Rd	25805	5/22/2014 12:24:14 AM	5/28/2014 12:43:34 PM	562760			
				454:52:27			
Input: Compressor Low Pressure							
Powell Rd	25805	5/1/2014 12:00:00 AM	5/6/2014 5:03:17 PM	493397			
Powell Rd	25805	5/13/2014 9:02:21 AM	5/20/2014 1:34:25 AM	577924			
Powell Rd	25805	5/22/2014 1:55:06 AM	5/28/2014 12:55:09 PM	558003			
				452:35:24		452:35:24	
Input: Pilot failure							
Powell Rd	25805	5/1/2014 12:00:00 AM	5/20/2014 1:45:28 PM	1691128			
Powell Rd	25805	5/22/2014 12:24:43 AM	5/30/2014 8:10:54 AM	719171			
Powell Rd	25805	5/30/2014 8:34:57 AM	5/30/2014 8:35:21 AM	24			
Powell Rd	25805	5/30/2014 8:43:05 AM	5/30/2014 8:46:57 AM	232			
Powell Rd	25805	5/30/2014 8:49:49 AM	5/30/2014 8:50:40 AM	51			
Powell Rd	25805	5/30/2014 9:10:25 AM	5/30/2014 9:38:29 AM	1684			
				670:04:50	670:04:50		
Input: Primary Power							
Powell Rd	25805						
Cycle Timer Shutdown (12Hrs. Daily)							
Daily shutdown					0		None Automatic Flare Cycling Run 12Hrs off 12 Hrs Daily
Total					670:04:50	452:35:24	

### **Associated Shutdowns**

**\*NOT ALL ALARMS SHUTDOWN THE SYSTEMS**

- Status History for Waste Management -Cincinnati -

Powell Rd

Sunday, June 01, 2014 to Monday, June 30, 2014

**- Alarm History -**

Station	Device	Alarm Start	Alarm End	Alarm Duration	Flare Shutdown Time	Leachate Sys Shutdown Time	Corrective Action
<b>Input: 75% UST Level</b>							
Powell Rd	25805	6/7/2014 6:43:46 PM	6/10/2014 12:46:37 PM	237771			
				66:02:51			
<b>LCS Well Shutdown</b>							
Powell Rd	25805	6/10/2014 3:03:15 AM	6/12/2014 8:14:48 AM	191493			
Powell Rd	25805	6/19/2014 7:47:15 PM		965505			
				321:23:18			
<b>Input: Compressor Low Pressure</b>							
Powell Rd	25805	6/10/2014 4:20:49 AM	6/12/2014 8:26:28 AM	187539			
Powell Rd	25805	6/12/2014 7:44:20 PM	6/17/2014 9:45:04 AM	396044			
Powell Rd	25805	6/19/2014 8:34:57 PM		962643			
				429:30:26		429:30:26	
<b>Input: Pilot failure</b>							
Powell Rd	25805	6/10/2014 3:03:42 AM	6/17/2014 9:55:57 AM	629535			
Powell Rd	25805	6/19/2014 7:47:43 PM		965477			
				443:03:32	443:03:32		
<b>Input: Primary Power</b>							
Powell Rd	25805	6/23/2014 8:43:44 PM	6/23/2014 11:16:18 PM	9154			
Powell Rd	25805	6/24/2014 12:22:10 AM	6/24/2014 12:27:55 AM	337			
				02:38:11			
<b>Cycle Timer Shutdown (12Hrs. Daily)</b>							
Daily shutdown				120			None Automatic Flare Cycling Run 12Hrs off 12 Hrs Daily
Total				563:03:32	429:30:26		

Associated Shutdowns

**\*NOT ALL ALARMS SHUTDOWN THE SYSTEMS**

- Status History for Waste Management -Cincinnati -  
 Powell Rd  
 Tuesday, July 01, 2014 to Monday, September 29, 2014

**- Alarm History -**

Station	Device	Alarm Start	Alarm End	Alarm Duration	Flare Shutdown Time	Leachate Sys Shutdown Time	Corrective Action
<b>Input: 75% UST Level</b>							
Powell Rd	25805	7/1/2014 12:57:04 PM	7/10/2014 10:24:12 AM	768428			
Powell Rd	25805	7/23/2014 4:04:57 PM	7/31/2014 1:30:58 PM	681961			
Powell Rd	25805	8/19/2014 8:43:06 AM	8/22/2014 10:19:30 AM	264984			
Powell Rd	25805	9/25/2014 8:06:09 AM		402771			
				588:22:24			
<b>LCS Well Shutdown</b>							
Powell Rd	25805	7/1/2014 12:00:47 AM	7/1/2014 9:14:54 AM	33247			
				09:14:07			
<b>Input: Compressor Low Pressure</b>							
Powell Rd	25805	7/1/2014 12:00:47 AM	7/1/2014 9:30:12 AM	34165			
				9:29:25		9:29:25	
<b>Input: Pilot failure</b>							
Powell Rd	25805	7/1/2014 12:00:47 AM	7/1/2014 7:18:50 PM	69483			
				19:18:03	19:18:03		
<b>Input: Primary Power</b>							
Powell Rd	25805	7/8/2014 12:14:56 PM	7/9/2014 6:56:54 AM	67318			Lost phase contacted Utility. Repair was made.

Powell Rd	25805	7/9/2014 8:15:14 AM	7/10/2014 7:33:19 AM	83885			
Powell Rd	25805	7/10/2014 8:08:53 AM	7/10/2014 8:17:15 AM	502			
Powell Rd	25805	7/10/2014 8:26:32 AM	7/10/2014 8:28:30 AM	118			
Powell Rd	25805	7/10/2014 10:05:30 AM	7/10/2014 10:08:16 AM	166			
Powell Rd	25805	7/11/2014 6:53:30 AM	7/11/2014 6:59:19 AM	349			
Powell Rd	25805	7/11/2014 7:11:01 AM	7/11/2014 9:05:20 AM	6859			
				44:13:17	44:13:27		

Cycle Timer Shutdown (12Hrs. Daily)			
Daily shutdown	1092		None Automatic Flare Cycling Run 12Hrs off 12 Hrs Daily
Total	1155:31:30	9:29:25	

Associated Shutdowns

**\*NOT ALL ALARMS SHUTDOWN THE SYSTEMS**

- Status History for Waste Management -Cincinnati -  
 Powell Rd  
 Wednesday, October 01, 2014 to Wednesday, December 31, 2014

**- Alarm History -**

Station	Device	Alarm Start	Alarm End	Alarm Duration	Flare Shutdown Time	Leachate Sys Shutdown Time	Corrective Action
Input: 75% UST Level							
Powell Rd	25805	10/1/2014 11:59:27 PM	12/8/2014 9:52:58 AM	5824411			
Powell Rd	25805	12/8/2014 9:53:28 AM	12/8/2014 9:53:53 AM	25			
Powell Rd	25805	12/8/2014 9:54:54 AM	12/8/2014 9:57:18 AM	144			
Powell Rd	25805	12/8/2014 10:04:03 AM	12/8/2014 10:32:41 AM	1718			
Powell Rd	25805	12/8/2014 10:33:18 AM	12/11/2014 12:03:55 PM	264637			
Powell Rd	25805	12/16/2014 5:38:21 PM	12/18/2014 9:39:01 AM	144040			
Powell Rd	25805	12/27/2014 11:26:14 PM		433966			
Powell Rd	25805						
Powell Rd	25805						
				1852:29:01			

LCS Well Shutdown

Powell Rd	25805	12/8/2014 10:56:02 AM	12/8/2014 10:56:43 AM	41			SAS Testing
				00:00:41			

Input: Compressor Low Pressure

Powell Rd	25805						

Input: Pilot failure

Powell Rd	25805						

Input: Primary Power

Powell Rd	25805	11/19/2014 9:07 AM	12/22/2014 3:18 PM		402:11:00	system down for blower shaft/bearing repairs by CBI
Powell Rd	25805					
Powell Rd	25805					
Powell Rd	25805					
Powell Rd	25805					
Powell Rd	25805					
Powell Rd	25805					

Cycle Timer Shutdown (12Hrs. Daily)

Oct Daily Shutdown	372		
Nov Daily Shutdown	360		
Dec Daily shutdown	372		None Automatic Flare Cycling Run 12Hrs off 12 Hrs Daily
Total	1506:11:00		

Associated Shutdowns

**\*NOT ALL ALARMS SHUTDOWN THE SYSTEMS**

## Autodialer Protocol for Powell Rd. Landfill

(Revised: 3/25/2015)

**A call out log / summary must be submitted to Robin Jones, Waste Management (WM) via email ([rjones2@wm.com](mailto:rjones2@wm.com)) at the end of each month for all Omni alarm calls.**

1. The unit is programmed to call up to two phone numbers and send three e-mails when in an alarm mode.
2. WM has first response priority to acknowledge the alarm before the unit calls additional parties.
3. WM personnel are called in order of response priority as follows:
  4. Tom Miller (WM) 1-513-265-8851  
Tom Miller (WM) (Email Message Sent)
5. To acknowledge an alarm call received from the unit, the responding party must respond verbally to activate the alarm message. The automated call will recite the alarm message such High Level or Power Failure. The responding party must press "7" to acknowledge the alarm. If the called party misses the call from the autodialer, the party must call the Omnisite phone number (1-888-947-1212) and enter their assigned 8 digit voice pin number assigned to responding party. Once the alarm is acknowledged, and the Omni unit reaches it's normal operating functions it will notify you with a "NOW NORMAL", which means the function in alarm has reached an acceptable level and is operating correctly.
6. Alarm notification via E-mail will occur when all attempts via telephone have failed. To acknowledge this alarm click on the acknowledge alarm link and a reply will be sent to you via E-mail stating that the alarm has been acknowledged.
7. Alarm response party will initiate the appropriate phone calls and/or physically visit the site to respond to the alarm condition and perform the necessary correction procedure within 12 hours of autodialer contact.

### **PILOT FAILURE**

- WM will visit the site to check/refill the propane pilot system including the propane supply tank and restart the flare.

### **FLAME OUT (low temperature or loss of flame/UV scanner signal alarm)**

- Flare will attempt to relight if flame-out condition occurs. WM will ensure restart has been achieved and/or visit the site to inspect the flame supervisory system components and restart the flare. Routine daily flare shutdowns (shutdowns initiated by the control panel cycle timer) will activate this alarm channel. The only action that needs to be taken during the programmed shutdown time frame (8:00 PM shutdown thru 8:00 AM start-up) is to acknowledge the alarm.

### **FLARE INLET GAS HIGH TEMPERATURE & MANUAL RUN TIMER SHUTDOWN**

- WM will visit the site to inspect the LFG collection system for any signs back draft in the flare piping and regain normal operations of the LFG collection system or reset the manual timer, set the control panel to automatic mode, and restart the system.

**TANK 75% FULL (UST 75% full level alarm)**

- WM will contact Veolia Transportation (937-237-1097) to schedule an appropriate haul date for fluid disposal. Veolia Transportation will haul at least one full load for any one call-out event. The driver will determine if there is another load ready to haul after pulling the first one and if so, the driver will schedule an immediate return trip to the site to pull another load. Veolia Transportation is responsible to coordinate disposal with United Wastewater (513-733-4666) and will provide and complete a wastewater manifest to United Wastewater and WM.

**TANK FULL (UST high level alarm)**

- Correction procedure the same as TANK 75% FULL alarm; WM will contact Veolia Transportation to schedule an appropriate haul date, etc., to reduce the fluid to an appropriate tank level. NOTE: During the high level alarm, the air compressor power is shut-off and returns to service once the high level float lowers. WM will also respond to any down flare alarms as a result of a "high level" alarm condition.

**COMPRESSOR LOW PRESSURE (low air pressure alarm)**

- WM will confirm power supply to the site and inspect the air compressor and associated components for system pressure leaks or problems. Air Technologies (614) 342-6247, or (local air compressor Service Company) will be contacted if repairs or troubleshooting are required for the air compressor or air dryer system.

**FLARE FAILURE (pilot ignition system was initiated three times in 80 minutes)**

- Alarm indicates that the pilot ignition system was lit three times in three hours. WM will assess the condition of the system and determine if the flare was able to relight after the third ignition sequence over the phone. If the system was successful in achieving normal operations after the third ignition, WM will monitor flare operations via phone for any continued trouble (the PLC is NOT programmed to shut down the entire system during this alarm. With the PLC being programmed in this fashion, it gives the flare additional attempts to relight and operate if successful). If it is determined that the flare was unable to relight after the third ignition in three hours, an WM technician will visit the site to troubleshoot and correct the system to regain normal operations. If the pilot ignition system is initiated three times in three hours, a problem most likely exists within the LFG system that warrants attention.

In the event of a power outage (power related shutdown) PILOT FAILURE and FLARE INLET GAS HIGH TEMPERATURE & MANUAL RUN TIMER SHUTDOWN will both be activated at the same time. Additionally, the Omni will call out with its own internal "Power Is Off" alert.

**APPENDIX E.**

**LANDFILL GAS AND CONDENSATE COLLECTION SYSTEMS  
MAINTENANCE SUMMARY REPORTS**

**Waste Management, Powell Rd Landfill****Landfill Gas and Condensate Collection Systems Maintenance Summary Report****Jan-2014**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
				No Maintenance Needed

Additional Comments: No Additional Comment

**Waste Management, Powell Rd Landfill****Landfill Gas and Condensate Collection Systems Maintenance Summary Report****Feb-2014**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
				No Maintenance Needed

Additional Comments: No Additional Comment

**Waste Management, Powell Rd Landfill****Landfill Gas and Condensate Collection Systems Maintenance Summary Report****Mar-2014**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
3/31/2014	Flare	Reactive	Unknown	Investigating Flare shutdown after LCS restart. Flare was running upon my arrival to the site on 3/31/14

Additional Comments: No Additional Comment

**Waste Management, Powell Rd Landfill**  
**Landfill Gas and Condensate Collection Systems Maintenance Summary Report**

**Apr-2014**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
4/1/2014	Flare	Reactive	Flare not restarting after LCS shutdown	It was determined that the current wiring is not set for automatic restart after an LCS event. Manual restart is required. The wiring will be revised.
4/25/2014	Flare	Reactive	malfunctioning compressor	Air Compressor was replaced by Air Handling Equipment. Air dryer was removed, it was not helping and it was stressing the compressor.
4/28/2014	Gas/leachate	Reactive		Completed wiring to LCS well for remote operation

**Additional Comments:** No Additional Comment

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**Waste Management, Powell Rd Landfill**  
**Landfill Gas and Condensate Collection Systems Maintenance Summary Report**

**May-2014**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed

**Additional Comments:** No Additional Comment

**Waste Management, Powell Rd Landfill**  
**Landfill Gas and Condensate Collection Systems Maintenance Summary Report**

**Jun-2014**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed

**Additional Comments:** No Additional Comment

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**Waste Management, Powell Rd Landfill**  
**Landfill Gas and Condensate Collection Systems Maintenance Summary Report**

**Jun-2014**

**SAS Completed Maintenance**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
6/18/2014	Yes	Reactive	Faulty regulators	Regulators replaced at G/L-04, 10, 13, and 23.

**Jul-2014**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
				No maintenance required.

**Aug-Oct 2014**

**SAS Completed Maintenance**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
8/1/2014	Yes	Reactive	Faulty regulators and faulty pump	Regulators replaced at the East and West Sumps. Pump in West Sump removed for repair and spare installed.
9/30/2014	Yes	Reactive	Aged, weathered, and faulty parts	Repaired the discharge line on GL-09 and GL-24, repaired a broken air line on GL-11, GL-14, GL-20, and GL-22, and replaced a faulty counter on GL-20, installed new AP4 in GL-18.
10/1/2014	No	Proactive	N/A	Performed annual pump cleaning. All pumps cleaned and checked for proper operation.

**Sep-2014**

**WM Completed Maintenance**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
9/23/2014	No	Reactive	Blower making excessive noise	Contacted LFG to service and/or diagnose problem.
9/23/2014	No	Reactive	Actuator valve is not working properly	Contacted Valve supplier to diagnose issue and recommend next step.

**Additional Comments:** No Additional Comment

**Waste Management, Powell Rd Landfill**  
**Landfill Gas and Condensate Collection Systems Maintenance Summary Report**

**Sep-2014**

**SAS Completed Maintenance**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
9/30/2014	Yes	Reactive	Aged, weathered, and faulty parts	Repaired the discharge line on GL-09 and GL-24, repaired a broken air line on GL-11, GL-14, GL-20, and GL-22, and replaced a faulty counter on GL-20, installed new AP4 in GL-18.

**Oct-2014**

**SAS Completed Maintenance**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
10/1/2014	No	Proactive	N/A	Performed annual pump cleaning. All pumps cleaned and checked for proper operation.

**Nov-2014**

**WM Completed Maintenance**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
11/19/2014	Flare/Blower	Reactive	Bearings and shaft Joints vibrating	Replace shaft bearings and motor to blower connection. Work completed by CBI
12/18/2014	Flare/Blower	Reactive		upon inspection the joint was determined to be bad. Parts had a two week lead time. Repair was completed on 12/18/14

**Dec-2014**

**SAS Completed Maintenance**

12/8/2014	No	Proactive	Suspected float level issues	SAS inspected the 75% full float and did not find any problems during the inspection.
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**Additional Comments:** Flare valve was ordered to replace existing actuated valve not operating normally. It will be installed in the first QTR of 2015.

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## **APPENDIX F.**

### **BLOWER/FLARE STATION DATA SHEETS**

# Blower / Flare Station Data

**LCS SHUTDOWN NO DATA**

Technician: Tom Miller

Date: 1/31/2014

Client: R. Jones, WMI

Site: Powell Rd

Temperature: \_\_\_\_\_

Barometric Press.: \_\_\_\_\_

## Before Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								None
Blower Out								None

## After Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								None
Blower Out								None

## Blower Data:

	Yes	No	Comments
Blower Operating Properly?		x	None
Motor Operating Properly?		x	None

Check Propane: PSI	Yes	No	Comments
	Yes	No	
Lube Blowers:	x		Check Valves:
Check Belts/Drive:	x		Check Actuator:
Drain Blower:	x		Check Flame Arrestor:
Blower Hours:	0.0		Check Compressor:
Blower Amps:	0		Check Auto-Dialer:
			Long Distance Service Active: N/A

## Flare Data:

Flare Temperature:	0	Check Ignition System:		x
Drain Flare Stack:	x	Other:	None	

## Compressor Data:

System Pressure:	psi	Check Compressor Drains:		x
Dryers Functioning:	x	Check Dryers Drains:		x
Check Motor:	x	Check Drive Belts:		x

Comments:

System down due to LCS shutdown

# Blower / Flare Station Data

Technician: Tom Miller  
 Date: 2/28/2014  
 Client: R. Jones, WMI  
 Site: Powell Rd  
 Temperature: \_\_\_\_\_  
 Barometric Press.: \_\_\_\_\_

**Before Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								None
Blower Out								None

**After Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								None
Blower Out								None

**Blower Data:**

	Yes	No	Comments
Blower Operating Properly?		x	None
Motor Operating Properly?		x	None

Lube Blowers:  Check Belts/Drive:  Drain Blower:  Check Propane: PSI  Blower Hours:  Blower Amps:	Yes	No
	x	
	x	
	x	
	x	
	0.0	
Check Compressor:  Check Auto-Dialer:  Long Distance Service Active:	Yes	No
		x
		x
		x
		x
	N/A	

**Flare Data:**

Flare Temperature:	0	Check Ignition System:		x
Drain Flare Stack:	x	Other:	None	

**Compressor Data:**

System Pressure:	psi	Check Compressor Drains:		x
Dryers Functioning:	x	Check Dryers Drains:		x
Check Motor:	x	Check Drive Belts:		x

**Comments:**
System down due to LCS shutdown

# Blower / Flare Station Data

Technician: Tom Miller  
 Date: 3/31/2014  
 Client: R. Jones, WMI  
 Site: Powell Rd  
 Temperature: 68  
 Barometric Press.: 30.10

**Before Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	17.8	8.2	14.3	59.6	-21.73	96	349.38	None
Blower Out	17.9	8.2	14.3	57.6	8.07	96	349.38	None

**After Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	27.8	15.7	10.8	45.7	-7.48	78	347.15	None
Blower Out	25.8	14.4	11.2	48.6	3.7	79	347.15	None

**Blower Data:**

	Yes	No	Comments
Blower Operating Properly?	x		None
Motor Operating Properly?	x		None

Lube Blowers:	Yes	No	Check Valves:	Yes	No
Check Belts/Drive:	x		Check Actuator:	x	
Drain Blower:	x		Check Flame Arrestor:	x	
Check Propane: PSI	85%	x	Check Compressor:	x	
Blower Hours:	21352.6		Check Auto-Dialer:	x	
Blower Amps:	12.35		Long Distance Service Active:	N/A	

**Flare Data:**

Flare Temperature:	1775	Check Ignition System:	x	
Drain Flare Stack:	x	Other:	None	

**Compressor Data:**

System Pressure:	147	psi	Check Compressor Drains:	x	
Dryers Functioning:		x	Check Dryers Drains:	x	
Check Motor:	x		Check Drive Belts:	x	

**Comments:** compressor dryer is being bypassed; they compressor will be replaced in the 2nd qtr.

# Blower / Flare Station Data

**LCS SHUTDOWN NO DATA**

Technician:	Tom Miller
Date:	4/30/2014
Client:	R. Jones, WMI
Site:	Powell Rd
Temperature:	78
Barometric Press.:	30.09

**Before Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								None
Blower Out								None

**After Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								None
Blower Out								None

**Blower Data:**

	Yes	No	Comments
Blower Operating Properly?	x		None
Motor Operating Properly?	x		None

	Yes	No		Yes	No
Lube Blowers:	x		Check Valves:		x
Check Belts/Drive:	x		Check Actuator:		x
Drain Blower:	x		Check Flame Arrestor:		x
Check Propane: PSI	83%	x	Check Compressor:		x
Blower Hours:			Check Auto-Dialer:		x
Blower Amps:			Long Distance Service Active:	N/A	

**Flare Data:**

Flare Temperature:			Check Ignition System:		
Drain Flare Stack:	x		Other:	None	

**Compressor Data:**

System Pressure:	0	psi	Check Compressor Drains:	x	
Check Motor:	x				

**Comments:**

System down due to LCS shutdown

# Blower / Flare Station Data

**LCS SHUTDOWN NO DATA**

Technician: Tom Miller  
 Date: 5/30/2014  
 Client: R. Jones, WMI  
 Site: Powell Rd  
 Temperature: 89  
 Barometric Press.: 30.09

**Before Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								None
Blower Out								None

**After Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								None
Blower Out								None

**Blower Data:**

	Yes	No	Comments
Blower Operating Properly?	x		None
Motor Operating Properly?	x		None

Lube Blowers:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Valves:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Belts/Drive:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Actuator:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Drain Blower:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Flame Arrestor:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Propane: PSI	<input type="text" value=" "/>	<input checked="" type="checkbox"/>	Check Compressor:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Blower Hours:	<input type="text" value=" "/>		Check Auto-Dialer:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Blower Amps:	<input type="text" value=" "/>		Long Distance Service Active:	<input type="text" value="N/A"/>	<input type="checkbox"/>

**Flare Data:**

Flare Temperature:	<input type="text" value=" "/>		Check Ignition System:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Drain Flare Stack:	<input checked="" type="checkbox"/>		Other:	None	

**Compressor Data:**

System Pressure:	<input type="text" value="0"/>	psi	Check Compressor Drains:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Motor:	<input checked="" type="checkbox"/>	<input type="checkbox"/>			

**Comments:**

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# Blower / Flare Station Data

**LCS SHUTDOWN NO DATA**

Technician: Tom Miller  
 Date: 6/30/2014  
 Client: R. Jones, WMI  
 Site: Powell Rd  
 Temperature: 83  
 Barometric Press.: 29.95

**Before Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								None
Blower Out								None

**After Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								None
Blower Out								None

**Blower Data:**

	Yes	No	Comments
Blower Operating Properly?	x		None
Motor Operating Properly?	x		None

Lube Blowers:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Valves:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Belts/Drive:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Actuator:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Drain Blower:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Flame Arrestor:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Propane: PSI	80%	<input checked="" type="checkbox"/>	Check Compressor:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Blower Hours:			Check Auto-Dialer:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Blower Amps:			Long Distance Service Active:	N/A	<input type="checkbox"/>

**Flare Data:**

Flare Temperature:	<input type="text"/>		Check Ignition System:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Drain Flare Stack:	<input checked="" type="checkbox"/>		Other:	None	

**Compressor Data:**

System Pressure:	0	psi	Check Compressor Drains:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Motor:	x				

**Comments:** System down due to LCS shutdown

# Blower / Flare Station Data

Technician: Tom Miller  
 Date: 9/23/2014  
 Client: R. Jones, WMI  
 Site: Powell Rd  
 Temperature: 78  
 Barometric Press.: 29.98

**Before Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	25.9	21.1	1.5	51.5	-20	99	351	None
Blower Out	25.1	25.3	2.2	47.4	5.4	91	351	None

**After Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	25.9	25.1	2.2	46.8	-20.5	89	349	None
Blower Out	25.3	24.1	3.1	47.5	4.2	84	349	None

**Blower Data:**

	Yes	No	Comments
Blower Operating Properly?		x	Blower is very noisy out of balance possibly. Contact contractor for repair
Motor Operating Properly?	x		None

Lube Blowers:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Belts/Drive:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Drain Blower:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Propane: PSI	60%	<input checked="" type="checkbox"/>
Blower Hours:	22519.1	
Blower Amps:	13.63	

Check Valves:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Actuator:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Flame Arrestor:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Compressor:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Auto-Dialer:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Long Distance Service Active:	N/A	

**Flare Data:**

Flare Temperature:	1665	Check Ignition System:	<input checked="" type="checkbox"/>	
Drain Flare Stack:	x	Other:	None	

**Compressor Data:**

System Pressure:	102	psi	Check Compressor Drains:	<input checked="" type="checkbox"/>	
Check Motor:	x				

**Comments:** Actuator on the flare valve is working slower than normal

# Blower / Flare Station Data

Technician: Tom Miller  
 Date: 12/22/2014  
 Client: R. Jones, WMI  
 Site: Powell Rd

Temperature: \_\_\_\_\_

Barometric Press.: \_\_\_\_\_

**Before Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								None
Blower Out								None

**After Tuning**

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In								None
Blower Out								None

**Blower Data:**

	Yes	No	Comments
Blower Operating Properly?		x	System down do to blower shaft/bearing repairs
Motor Operating Properly?		x	" "

Lube Blowers:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Valves:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Belts/Drive:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Actuator:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Drain Blower:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Flame Arrestor:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Propane: PSI	40%	<input checked="" type="checkbox"/>	Check Compressor:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Blower Hours:			Check Auto-Dialer:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Blower Amps:			Long Distance Service Active:	N/A	<input type="checkbox"/>

**Flare Data:**

Flare Temperature:	<input type="text"/>		Check Ignition System:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Drain Flare Stack:	<input checked="" type="checkbox"/>		Other:	None	

**Compressor Data:**

System Pressure:	126	psi	Check Compressor Drains:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Motor:	x				

Comments:	System down today due to blower shaft/bearing repairs Actuator on flare valve appears not to be working correctly; new valve ordered				
<hr/>					

**APPENDIX G.**

**WELLFIELD FLUID & PUMP CYCLE DATA**

**(FLUID LEVELS)**

### Wellfield Pump Cycle Data

Technician:Technician: \_\_\_\_\_ Site: \_\_\_\_\_  
 Date: \_\_\_\_\_ 3/31/2014 Temperature: \_\_\_\_\_  
 Client: \_\_\_\_\_ Client: R. Jones, WMI Barometric Pressure: \_\_\_\_\_

Well ID	Pump In Well	Wellhead In Good Condition	Pump Connections Secure	Proper Air Supply	Cycle Counter Functioning	Observed Pump Cycle	Previous Cycle Counter Number	Current Cycle Counter Number	Difference in Cycle Counter Values	Comments
L1	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
L2	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
L3	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 01	Yes	Yes	Yes	Yes	Yes	No	97058	97058	0	
G/L 02	Yes	Yes	Yes	Yes	Yes	No	382460	384113	1,653	
G/L 03	Yes	Yes	Yes	Yes	Yes	Yes	379389	517739	138,350	
G/L 04	Yes	Yes	Yes	Yes	Yes	No	626052	626052	0	
G/L 05	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 06	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 07	Yes	Yes	Yes	Yes	Yes	No	403354	409884	6,530	
G/L 08	Yes	Yes	Yes	Yes	Yes	Yes	234566	289027	54,461	
G/L 09	Yes	Yes	Yes	Yes	Yes	No	917061	917715	654	
G/L 10	Yes	Yes	Yes	Yes	Yes	No	608645	608770	125	
G/L 11	Yes	Yes	Yes	Yes	Yes	Yes	542806	666827	124,021	
G/L 12	Yes	Yes	Yes	Yes	Yes	No	209014	209023	9	
G/L 13	Yes	Yes	Yes	Yes	Yes	No	701703	701706	3	
G/L 14	Yes	Yes	Yes	Yes	Yes	No	152332	152334	2	
G/L 15	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 16	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 17	Yes	Yes	Yes	Yes	Yes	No	870835	871411	576	
G/L 18	Yes	Yes	Yes	Yes	Yes	No	742642	742642	0	
G/L 19	Yes	Yes	Yes	Yes	Yes	No	384090	454798	70,708	
G/L 20	Yes	Yes	Yes	Yes	Yes	No	905235	905292	57	
G/L 21	Yes	Yes	Yes	Yes	Yes	N/A	626534	662277	35,743	
G/L 22	Yes	Yes	Yes	Yes	Yes	No	195571	206278	10,707	
G/L 23	Yes	Yes	Yes	Yes	Yes	Yes	725500	825202	99,702	
G/L 24	Yes	Yes	Yes	Yes	Yes	No	906992	909382	2,390	
G/L 25	Yes	Yes	Yes	Yes	Yes	No	83158	83159	1	
G/L 26	Yes	Yes	Yes	Yes	Yes	No	847252	847998	746	

|Additional Comments: East Sump, 30026 West Sump, 994497

**Wellfield Pump Cycle Data**

Technician:	Technician:	J. PERTEE	Site:	Powell Rd. Landfill
Date:	Date:	6/18/2014	Temperature:	92
Client:	Client:	R. Jones, WMI	Barometric Pressure:	

Well ID	Pump in Well	Wellhead in Good Condition	Pump Connections Secure	Proper Air Supply	Cycle Counter Functioning	Observed Pump Cycle	Previous Cycle Counter Number	Current Cycle Counter Number	Difference in Cycle Counter Values	Comments	
L1	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
L2	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
L3	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
G/L 01	Yes	Yes	Yes	Yes	Yes	No	97058	97058	0		
G/L 02	Yes	Yes	Yes	Yes	Yes	No	384113	384387	274		
G/L 03	Yes	Yes	Yes	Yes	Yes	No	517739	519049	1,310		
G/L 04	Yes	Yes	Yes	Yes	Yes	No	626052	626053	1		
G/L 05	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
G/L 06	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
G/L 07	Yes	Yes	Yes	Yes	Yes	No	409884	413353	3,469		
G/L 08	Yes	Yes	Yes	Yes	Yes	Yes	289027	316459	27,432		
G/L 09	Yes	Yes	Yes	Yes	Yes	No	917715	917715	0		
G/L 10	Yes	Yes	Yes	Yes	Yes	Yes	608770	608789	19		
G/L 11	Yes	Yes	Yes	Yes	Yes	No	666827	736826	69,999		
G/L 12	Yes	Yes	Yes	Yes	Yes	No	209023	209070	47		
G/L 13	Yes	Yes	Yes	Yes	Yes	Yes	701706	701708	2		
G/L 14	Yes	Yes	Yes	Yes	Yes	No	152334	152336	2		
G/L 15	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
G/L 16	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
G/L 17	Yes	Yes	Yes	Yes	Yes	No	871411	N/A	N/A		
G/L 18	Yes	Yes	Yes	Yes	Yes	No	742642	742642	0		
G/L 19	Yes	Yes	Yes	Yes	Yes	No	454798	480627	25,829		
G/L 20	Yes	Yes	Yes	Yes	Yes	No	905292	905292	0		
G/L 21	Yes	Yes	Yes	Yes	Yes	N/A	662277	680707	18,430		
G/L 22	Yes	Yes	Yes	Yes	Yes	Yes	No	206278	213465	7,187	
G/L 23	Yes	Yes	Yes	Yes	Yes	Yes	825202	902727	77,525		
G/L 24	Yes	Yes	Yes	Yes	Yes	No	909382	919494	10,112		
G/L 25	Yes	Yes	Yes	Yes	Yes	Yes	No	83159	83159	0	
G/L 26	Yes	Yes	Yes	Yes	Yes	Yes	No	847998	848730	732	

Additional Comments: East Sump, 70897, West Sump, 996402

**Wellfield Pump Cycle Data**

Technician: J. PERTEE  
 Date: 9/30/2014  
 Client: R. Jones, WMI

Site: Powell Rd. Landfill  
 Temperature: 58  
 Barometric Pressure:

Well ID	Pump in Well	Wellhead In Good Condition	Pump Connections Secure	Proper Air Supply	Cycle Counter Functioning	Observed Pump Cycle	Previous Cycle Counter Number	Current Cycle Counter Number	Difference in Cycle Counter Values	Comments
L1	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
L2	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
L3	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 01	Yes	Yes	Yes	Yes	Yes	97058	97059	1	Dry	
G/L 02	Yes	Yes	Yes	Yes	Yes	384387	385188	801		
G/L 03	Yes	Yes	Yes	Yes	Yes	519049	519050	1	Dry	
G/L 04	Yes	Yes	Yes	Yes	Yes	626053	626053	0	Dry	
G/L 05	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 06	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 07	Yes	Yes	Yes	Yes	Yes	413353	416027	2,674		
G/L 08	Yes	Yes	Yes	Yes	Yes	316459	344427	27,968	Regulator old, but functional	
G/L 09	Yes	Yes	Yes	Yes	Yes	917715	917717	2	Repaired discharge line	
G/L 10	Yes	No	No	No	No	608789	608794	5		
G/L 11	Yes	Yes	Yes	Yes	Yes	736826	766398	29,572	Repaired broken air line	
G/L 12	Yes	Yes	Yes	Yes	Yes	209070	209075	5		
G/L 13	Yes	Yes	Yes	Yes	Yes	701708	701709	1		
G/L 14	Yes	Yes	Yes	Yes		152336	152336	0	Repaired broken air line	
G/L 15	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 16	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 17	Yes	Yes	Yes	Yes	Yes	N/A	873704.00	N/A		
G/L 18	Yes	Yes	Yes	Yes	Yes	No	742642	742642	0	
G/L 19	Yes	Yes	Yes	Yes	Yes	Yes	480627	581846	101,219	
G/L 20	Yes	Yes	Yes	Yes	Yes	Yes	905292	208	-905,084	Repaired air line, replaced counter
G/L 21	Yes	Yes	Yes	Yes	Yes	Yes	680707	697643	16,936	
G/L 22	Yes	Yes	Yes	Yes	Yes	Yes	213465	229084	15,619	repaired air line
G/L 23	Yes	Yes	Yes	Yes	Yes	Yes	902727	1020610	117,883	
G/L 24	Yes	Yes	Yes	Yes	Yes	Yes	919494	942991	23,497	repaired discharge line
G/L 25	Yes	Yes	Yes	Yes	Yes	Yes	83159	83161	2	
G/L 26	Yes	Yes	Yes	Yes	Yes	Yes	848730	850655	1,925	

|Additional Comments: East Sump, 986, West Sump, 998914

G/L 18, installed new AP4+ in well, well was dry

**Wellfield Pump Cycle Data**

Technician:	Technician:	J. PERTEE	Site:	Powell Rd. Landfill
Date:	Date:	12/8/2014	Temperature:	30
Client:	Client:	Jones, WMI	Barometric Pressure:	

Well ID	Pump in Well	Wellhead in Good Condition	Pump Connection s Secure	Proper Air Supply	Cycle Counter Functionin g	Observed Pump Cycle	Previous Cycle Counter Number	Current Cycle Counter Number	Difference in Cycle Counter Values	Comments
L1	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
L2	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
L3	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 01	Yes	Yes	Yes	Yes	Yes	No	97059	97060	1	repair air line
G/L 02	Yes	Yes	Yes	Yes	Yes	No	385188	385295	107	repair air line
G/L 03	Yes	Yes	Yes	Yes	Yes	No	519050	519209	159	
G/L 04	Yes	Yes	Yes	Yes	Yes	No	626053	626053	0	repair air line
G/L 05	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 06	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 07	Yes	Yes	Yes	Yes	Yes	No	416027	425495	9,468	
G/L 08	Yes	Yes	Yes	Yes	Yes	Yes	344427	394584	50,157	
G/L 09	Yes	Yes	Yes	Yes	Yes	No	917717	917887	170	
G/L 10	Yes	No	No	Yes	Yes	No	608794	608797	3	Needs Kanaflex hose
G/L 11	Yes	Yes	Yes	Yes	Yes	Yes	766398	856317	89,919	
G/L 12	Yes	Yes	Yes	Yes	Yes	No	209075	209190	115	repair air line
G/L 13	Yes	Yes	Yes	Yes	Yes	No	701709	701709	0	
G/L 14	Yes	Yes	Yes	Yes	Yes	No	152336	159938	7,602	repair air line
G/L 15	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 16	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
G/L 17	Yes	Yes	Yes	Yes	Yes	No	873704	875050	1,346	repair air line
G/L 18	Yes	Yes	Yes	Yes	Yes	No	742642	742642	0	repair air line
G/L 19	Yes	Yes	Yes	Yes	Yes	No	581846	726475	144,629	repair air line
G/L 20	Yes	Yes	Yes	Yes	Yes	No	208	208	0	
G/L 21	Yes	Yes	Yes	Yes	Yes	No	697643	703366	5,723	
G/L 22	Yes	Yes	Yes	Yes	Yes	No	229084	240408	11,324	repair air line
G/L 23	Yes	Yes	Yes	Yes	Yes	No	20610	138432	117,822	
G/L 24	Yes	Yes	Yes	Yes	Yes	No	942991	971590	28,599	
G/L 25	Yes	Yes	Yes	Yes	Yes	No	83161	83161	0	
G/L 26	Yes	Yes	Yes	Yes	Yes	No	850655	851937	1,282	repair air line

Additional Comments: noted airlines need repaired  
 East Sump 967, West Sump 7728

## **APPENDIX H.**

### **LIQUID HAULING DATA**

2014 MONTHLY LIQUID VOLUMES  
POWELL ROAD LANDFILL

Month	Gallons	in. Rain*
Jan-14	0	2.84
Feb-14	5,000	2.14
Mar-14	15,000	2.62
Apr-14	10,000	5.80
May-14	0	4.68
Jun-14	6,500	3.53
Jul-14	14,000	3.23
Aug-14	9,000	3.06
Sep-14	2,000	0.88
Oct-14	10,000	2.37
Nov-14	5,000	2.04
Dec-14	22,500	2.79
<b>Total</b>	<b>99,000</b>	<b>35.98</b>
<b>Monthly Avg</b>	<b>8,250</b>	<b>3.00</b>
<b>Daily Avg</b>	<b>271.23</b>	<b>0.10</b>

\*NCDC(NOAA) - Dayton International Airport

**APPENDIX I.**

**LANDFILL LIQUID**

**ANALYTICAL DATA SUMMARY**

**TABLE I-1.**  
**PARAMETERS DETECTED IN COLLECTION TANK SAMPLES DURING O & M MONITORING**  
**POWELL ROAD LANDFILL**

Parameter	2/17/2000	3/2/2000	3/13/2000	4/10/2000	05/01/00	08/15/00	11/13/00	02/19/01	05/21/01	5/6/02	5/8/03	5/10/04	5/2/05	5/8/06	5/8/07	5/19/08	5/04/09	5/03/10	5/02/11	4/30/12	5/06/13	5/13/14	
Inorganics and Metals (mg/L)																							
Alkalinity																							
BOD - Five Day	176	262	252	<374	207	156	143	140	70.8	2520	2420	2970	339	2940	3950	2080	2230	1250	2480	1450B	4050	4470	2870
Chloride	1870	2090	2130	865	<0.5 R	1690	678	1020	937	813	1680	2340	2190	2860	1020	724	400	902	325	1600	1650	1360	
COD	2200	2520	2560	908	1720	1520	1540	1660	852	650	1250	1360	1250	1490	569	554	288	763	209	1370	1540	993	
Cyanide, Total	<0.005	<0.005	0.130	<0.005	<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Fats, Oils, and Grease	<5	12	153	<5	<5.0	<5.0	<5.0	<5.0	<5.0	6.2	10.4	<5.0	<5.0	<5.0	<5.0	<5.0	10.1	<5.0	<4.9	<5.0UJ	<5.0	8.9	
Fluoride																							
Nitrogen, Ammonia	700	820	890	260	704	901	1120	582	368	235	684	792	570	699	316	273	152	184	93.2	869	677	430	
Nitrogen, Nitrate + Nitrite	0.03	<0.02	0.03	<0.05	<2.8	<1.0	<0.50	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.051	<0.050	<0.050	<0.050	
Phosphorus	5.79	4.36	1.62	2.8	3.7	2.6	1.5	1.6	3.0	3.4	1.8	4.2	0.42	0.54	0.583	1.68	0.15	3.3	4.0	2.6			
pH, (Lab) measured in S.U.	7.53	7.4	7.35	6.92	6.55	7.68	7.72	7.45	7.32	7.40	7.63	7.70	7.54	7.52	7.30	7.39	7.32	7.37	7.55	7.73	7.69		
Solids, Total Dissolved	6060	4300	6250	2890	5150	5900	3950	5780	3150	3110	4780	5540	4480	6520	2800	3070	1910	3480	1660	5610	5460	4930	
Solids, Suspended	9	8	11	39	72.0	42.5	8.5	11.0	44.0	18.0	40.0	20.0	15	8	<4.0	30.4	14.4	8.8	13.2	12.8	<4.0	8.8	
Sulfate	60	84	75	106	92.9	101	128	122	145	116	117	172	181	118	106	140	<100	67.3	135	94.5	85.7	54.1	
Sulfide	<2	14.7	15.9	<2	2.0	4.3	<2.0	<2.0	2.4	2.1	3.2	<2.0	4.4	4.8	<2.0	<2.0	<2.0	<2.0	<6.7	<2.0	<2.0		
Total Organic Carbon (TOC)	673	725	290	483	527	567	511	246	194	461	411	365	455	185	146	97.5	203	63.0	382	359	330		
Aluminum	0.33	252	0.33	0.12	0.41	0.38	0.30	0.29	<0.10	<0.10	0.22	0.23	0.22	0.19	<0.10	<0.10	<0.10	<0.10	<0.10	0.16	0.13	0.11	
Antimony	<0.01	0.0023	<0.0050	<0.005	<0.006	<0.0063	<0.006	<0.006	<0.003	<0.003	<0.003	<0.003	<0.003	<0.015	<0.015	<0.003	<0.005	<0.005	<0.005	<0.015	<0.015	<0.015	
Arsenic	0.009	<0.025	0.0019	<0.005	0.046	0.028	0.029	0.036	0.014	0.015	0.028	0.034	0.020	0.033	0.011	0.014	0.0071	0.0169	0.0073	0.039	0.029	0.024	
Barium	0.299	0.218	0.267	0.253	0.35	0.39	0.37	0.35	0.27	0.44	0.34	0.37	0.36	0.37	0.33	0.31	0.346	0.382	0.29	0.42	0.39	0.33	
Beryllium	<0.0020	<0.0020	<0.020	<0.0020	<0.004	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Cadmium	<0.0020	<0.0020	<0.0050	<0.0050	0.026	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Calcium	56	52	59.1	118	88.7	71.4	68.6	65.8	102	140	68.9	68.0	95.9	64.2	131	140	184	158	186	67.6	47.3	53.9	
Chromium	0.0529	0.0481	0.0688	0.0231	0.062	0.068	0.077	0.080	0.035	0.021	0.057	0.062	0.06	0.07	0.018	0.018	0.0132	0.0276	<0.010	0.055	0.055	0.047	
Cobalt	0.0274	0.0221	0.0286	0.0201	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Copper	0.0075	<0.015	0.0222	<0.010	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	
Iron	5.39	7.3	7.31	17.5	11.9	3.2	1.8	6.9	6.2	7.3	4.8	6.4	1.6	5.2	9.8	6.6	5.04	5.60	4.0	3.7	4.0	5.2	
Lead	0.0212	0.0161	0.0202	0.0104	0.023	0.014	0.018	0.022	0.0067	0.01	0.0085	0.020	0.025	0.01	<0.005	<0.005	<0.005	<0.005	0.0092	0.0059	0.0083	0.0074	
Magnesium	126	111	145	64.3	115	116	128	118	78.3	98.3	114	140	105	132	96.8	90.6	65.8	89.0	65.7	150	120	108	
Manganese	0.122	0.092	0.095	0.286	0.18	0.12	0.11	0.092	0.23	0.25	0.10	0.093	0.11	0.079	0.18	0.20	0.326	0.266	0.30	0.080	0.068	0.065	
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Nickel	0.140	0.114	0.156	0.126	0.16	0.15	0.16	0.17	0.085	0.062	0.130	0.130	0.14	0.16	0.062	0.052	<0.040	0.0775	<0.040	0.16	0.14	0.12	
Potassium	647	564	836	259	401	955	628	821	322	301	523	571	560	681	258	262	159	325	119	625	574	505	
Selenium	<0.050	<0.0250	<0.0050	<0.010	<0.005	<0.0066	<0.0066	<0.0050	<0.0050	<0.005	0.036	0.014	<0.005	<0.025	<0.025	0.0053	<0.005	<0.025	0.033	<0.025	<0.025	<0.025	
Silver	<0.005	<0.001	<0.005	<0.0025	<0.003	<0.0030	<0.0030	<0.0030	<0.0030	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
Sodium	1400	1170	1640	512	1720	2240	1780	1760	693	642	1100	1240	1070	1410	583	552	334	711	248	1420	1270	1040	
Thallium	<0.0020	<0.0020	<0.0050	<0.0050	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
Tin	<2.0	<2.0	<2.0	<2.0	0.094	0.085	0.093	0.11	<0.010	0.021	0.062	0.054	0.097	0.088	0.017	0.010	0.0134	0.0379	<0.010	0.066	0.081	0.067	
Vanadium	<0.050	<0.050	<0.050	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Zinc	0.181	0.120	0.164	0.0964	0.16	0.088	0.096	0.10	0.052	0.055	0.057	0.070	0.11	0.068	<0.020	<0.020	0.0261	0.026	0.039	0.027	0.029		

**TABLE I-1.**  
**PARAMETERS DETECTED IN COLLECTION TANK SAMPLES DURING O & M MONITORING**  
**POWELL ROAD LANDFILL**

Parameter	2/17/2000	3/2/2000	3/13/2000	4/10/2000	05/01/00	08/15/00	11/13/00	02/19/01	05/21/01	5/6/02	5/8/03	5/10/04	5/2/05	5/8/06	5/8/07	5/19/08	5/04/09	5/03/10	5/02/11	4/30/12	5/06/13	5/13/14		
Detected Volatile Organic Compounds (ug/L)																								
Acetone	1280	3280	861	630	2700	470	<100	1100	470	1400	350	<100	680	380	810	<100	300	<2000	<2000	<200	<100			
Benzene	<10	10.2	<10	<20	<8	<3	<2	<2	<2	<4	<3	<3	<18	<7	<7	<20	<20	<40	<40	<20	<10			
2-Butanone (MEK)	1080	1530	1110	849	3100	730	590	1300	540	1600	470	<29	700	390	1000	<26	<100	250	<100	<200	<100			
Carbon Disulfide	<10	<10	<10	<20	<8	<5	7	<5	<5	<5	<5	<5	<24	<5	<5	<20	<20	<100	<100	<20	<10			
Chlorobenzene	<10	16.4	<10	<20	<7	<3	<2	3	<2	4	<4	<2	<2	<16	<6	<20	<20	<40	<40	<20	<10			
Chloroethane	<50	<50	<50	<100	<8	<5	<5	<5	<5	6	5	<5	<16	<6	<20	<20	<100	<100	<20	<20	<10			
1,2-Dibromo-3-chloropropane (DBCP)	<50	<50	<50	<100	<16	<6	<3	<2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.010	<0.011	0.0371+	<0.011	0.090	0.090	0.043			
cis-1,2-dichloroethene	24.2	13.7	<20	17	7	<5	<5	<5	7	<5	<5	<5	<18	<7	<7	<20	<20	<100	<100	<20	<10			
1,4-Dichlorobenzene	<100	<100	<100	<100	14	6	<2	9	4	18	10	5	8	<18	<7	<7	<20	<20	<40	<40	<20	<10		
Ethylbenzene	59.3	127	76.9	38.4	20	7	<2	<2	8	21	11	<3	3	<17	<7	<7	<20	<20	<40	<40	<20	<10		
4-Methyl-2-pentanone (MIK)	143	283	130	<250	190	86	120	120	<50	82	51	<50	<50	<120	64	<50	<100	<100	<1000	<1000	<100	<50		
Methylene chloride	<50	<50	<50	<100	75	<5	<5	32	<5	9	<8	4	<4	<22	18	<9	<20	<20	<20	<20	<20	<10		
Toluene	103	188	124	77.4	52	14	13	16	14	14	17	<4	18	<17	16	<10	<20	<20	<40	<40	<20	<10		
Xylenes	198	463	278	60.0	100	50	39	44	39	120	61	<10	43	<46	44	<19	<60	<60	<100	<100	<40	<20		
Vinyl Chloride	<10	<10	<10	<20	<8	<3	<2	<2	<2	3	<4	<6	<6	<12	<5	<5	<20	<20	<20	<20	<20	<10		
Detected Semi-Volatile Organic Compounds (ug/L)																								
1,4-Dioxane	<100	<100	128	<100	<37	<10	<10	<10	<10	210	250	810E, 840D	400	510	200	650	270E, 300D	290E	130	250	130	390	460	
Meta & para-methylphenol (m & p - Cris)	<100	<100	<100	<100	110	29	25	28	13	<10	<65	<68	<27	<26	<10	<10	<9.4	<95	<19	<19	<190	<460 UJ		
bis (2-ethylhexyl) phthalate	<100	<100	<100	<100	110	29	25	28	13	<10	<65	<68	<27	<26	<10	<10	<10	<24	<9.4	<9.5	<94	<460 UJ		
Detected Herbicides (ug/L)																								
Silvex (2,4,5-TP)	<5.1	<5.0		1.52	0.24J	2.2	1.3	2.9	2.5	<1.0	<1.0	<1.1	<1.0	4.6	<1.0	<1.0	<0.48	<0.47	<0.47	<0.47UJ	2.1	<0.47		
2,4-D	<5.1	<50.3		<5.15	2.3	<1	<1	<1	<1.0	<1.0	1.4	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	<0.47	<0.47	<0.47UJ	<0.47	<0.47		
Detected Pesticides (ug/L)																								
Gamma-BHC(Lindane)	<0.20	<0.20	<2.0	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.047	0.055J-	<0.047	<0.047UJ	<0.94	<0.46		
Heptachlor	<0.20	<0.20	<2.0	<0.20	<0.05	<0.05	<0.05	<0.05	<0.050J	<0.094	<0.05	<0.05	0.11	<0.05	0.052	0.082	0.095	<0.048	<0.047	<0.047UJ	<0.94	<0.46		
Detected PCBs (ug/L)																								
PCB 1242	<0.2	<0.2	<2.0	<0.2	1.2	0.61	0.51	<1.0 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.94	<0.95UJ	<0.92 UJ	
RSK Results (ug/L)																								
Ethane														<190	<24	<47	<18	<18	<150	<150	<2000	<400	<40	<40
Ethene														<98	<12	<25	<15	<150	<150	<1500	<300	<30	<30	
Methane														1800	320	460	220	500	570	140	<1000	550	270	940

J = estimated value, UJ = Estimated non-detect result

Note: Samples collected from UST after start-up of liquid extraction system.

### Wellfield Monitoring Data

Technician: Tom Miller  
 Date: 1/31/2014  
 Client: R. Jones, WMI  
 Site: Powell Rd  
 Temperature:  
 Barometric Press.:

ID	Date/Time	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN								
POWLBLOT								
POWL0001								
POWL0002								
POWL0003								
POWL0004								
POWL0005								
POWL0006								
POWL0007								
POWL0008								
POWL0009								
POWL0010								
POWL0011								
POWL0012								
POWL0013								
POWL0014								
POWL0015								
POWL0016								
POWL0017								
POWL0018								
POWL0019								
POWL0020								
POWL0021								
POWL0022								
POWL0023								
POWL0024								
POWL0025								
POWL0026								
POWLBLIN								
POWLBLOT								

Comments: System down due to LCS Shutdown

### Wellfield Monitoring Data

Technician: Tom Miller  
Date: 2/28/2014  
Client: R. Jones, WMI  
Site: Powell Rd  
Temperature:  
Barometric Press.:

ID	Date/Time	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN								
POWLBLOT								
POWL0001								
POWL0002								
POWL0003								
POWL0004								
POWL0005								
POWL0006								
POWL0007								
POWL0008								
POWL0009								
POWL0010								
POWL0011								
POWL0012								
POWL0013								
POWL0014								
POWL0015								
POWL0016								
POWL0017								
POWL0018								
POWL0019								
POWL0020								
POWL0021								
POWL0022								
POWL0023								
POWL0024								
POWL0025								
POWL0026								
POWLBLIN								
POWLBLOT								

Comments: System down due to LCS Shutdown

**Wellfield Monitoring Data**

Technician:	Tom Miller
Date:	3/31/2014
Client:	R. Jones, WMI
Site:	Powell Rd
Temperature:	68
Barometric Press.:	30.10

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN	3/31/2014	2:25	17.8	8.2	14.3	59.6	-21.73	96	
POWLBLOT	3/31/2014	2:28	17.9	8.2	14.3	57.6	8.07	96	
POWL0001	3/31/2014	2:44	55.9	30.7	0.5	12.8	-3.19	71	
POWL0002	3/31/2014	2:47	59.2	31.3	0.5	9	-19.2	65	
POWL0003	3/31/2014	2:51	0	0.3	20.1	79.6	-3	72	Fully Closed
POWL0004	3/31/2014	2:55	60	31.8	0.3	8	-2.75	68	Increased Flow
POWL0005	3/31/2014	3:03	56	36.4	0.8	6.8	-2.5	68	No Change
POWL0006	3/31/2014	4:06	65.2	25	1.6	8.1	-5.61	65	No Change
POWL0007	3/31/2014	4:09	17	10.3	14.7	58.1	-4.4	64	No Change/Closed
POWL0008	3/31/2014	4:12	45.7	25.6	5.6	23.2	-7.1	66	Decreased Flow
POWL0009	3/31/2014	4:18	41.8	25.2	4.2	28.7	-10.6	68	Decreased Flow
POWL0010	3/31/2014	4:24	28	17.3	10.3	44.4	-0.13	78	No Change/BO
POWL0011	3/31/2014	4:27	33	18.4	8.7	39.8	-1.9	68	No Change/ BO
POWL0012	3/31/2014	4:31	18.1	10.5	12.5	58.9	-0.91	75	Closed
POWL0013	3/31/2014	4:37	58.5	33.9	0.5	7	-5.1	65	Increased Flow
POWL0014	3/31/2014	3:42	0.1	4.6	14.9	80.5	-15.6	77	Closed
POWL0015	3/31/2014	3:37	60.5	27.9	1.5	10.1	-2.9	73	No Change
POWL0016	3/31/2014	3:39	1.1	15.9	2.9	80.1	-0.2	63	Closed
POWL0017	3/31/2014	2:35	62.1	32.4	1.3	4.1	-0.17	72	Increased Flow
POWL0018	3/31/2014	2:40	0	0.6	19.8	79.5	-0.89	61	Closed
POWL0019	3/31/2014	3:30	60.8	17.2	4.1	17.9	-18.3	69	Increased Flow
POWL0020	3/31/2014	3:34	41.3	13.8	8.1	36.8	-17.49	68	Decreased Flow
POWL0021	3/31/2014	3:46	38.8	14.1	8.5	38.6	-8.4	73	No Change
POWL0022	3/31/2014	3:50	68.2	10.2	0.9	10.6	-19.5	69	Full Open
POWL0023	3/31/2014	3:55	55.5	23.1	3.8	17.6	-20.19	70	No Change
POWL0024	3/31/2014	3:59	0	0.2	20.2	79.5	-0.41	71	Closed
POWL0025	3/31/2014	3:07	39.8	27.4	5.6	27.2	-1.32	68	No Change
POWL0026	3/31/2014	3:11	51.8	22.5	4.8	21	-19.42	69	Increased Flow
POWLBLIN	3/31/2014	4:48	27.8	15.7	10.8	45.7	-7.48	78	
POWLBLOT	3/31/2014	4:53	25.8	14.4	11.2	48.6	3.7	79	

Comments:

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**Wellfield Monitoring Data**

Technician:	Tom Miller
Date:	4/30/2014
Client:	R. Jones, WMI
Site:	Powell Rd
Temperature:	62
Barometric Press.:	29.81

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN									
POWLBLOT									
POWL0001									
POWL0002									
POWL0003									
POWL0004									
POWL0005									
POWL0006									
POWL0007									
POWL0008									
POWL0009									
POWL0010									
POWL0011									
POWL0012									
POWL0013									
POWL0014									
POWL0015									
POWL0016									
POWL0017									
POWL0018									
POWL0019									
POWL0020									
POWL0021									
POWL0022									
POWL0023									
POWL0024									
POWL0025									
POWL0026									
POWLBLIN									
POWLBLOT									

Comments: System down due to LCS shutdown

**Wellfield Monitoring Data**

Technician:	Tom Miller
Date:	5/30/2014
Client:	R. Jones, WMI
Site:	Powell Rd
Temperature:	89
Barometric Press.:	30.09

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN									
POWLBLOT									
POWL0001									
POWL0002									
POWL0003									
POWL0004									
POWL0005									
POWL0006									
POWL0007									
POWL0008									
POWL0009									
POWL0010									
POWL0011									
POWL0012									
POWL0013									
POWL0014									
POWL0015									
POWL0016									
POWL0017									
POWL0018									
POWL0019									
POWL0020									
POWL0021									
POWL0022									
POWL0023									
POWL0024									
POWL0025									
POWL0026									
POWLBLIN									
POWLBLOT									

Comments: System down due to LCS shutdown.

**Wellfield Monitoring Data**

Technician:	Tom Miller
Date:	6/30/2014
Client:	R. Jones, WMI
Site:	Powell Rd
Temperature:	83
Barometric Press.:	29.95

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN									
POWLBLOT									
POWL0001									
POWL0002									
POWL0003									
POWL0004									
POWL0005									
POWL0006									
POWL0007									
POWL0008									
POWL0009									
POWL0010									
POWL0011									
POWL0012									
POWL0013									
POWL0014									
POWL0015									
POWL0016									
POWL0017									
POWL0018									
POWL0019									
POWL0020									
POWL0021									
POWL0022									
POWL0023									
POWL0024									
POWL0025									
POWL0026									
POWLBLIN									
POWLBLOT									

**Comments:** System down due to LCS shutdown

### Wellfield Monitoring Data

Technician: Tom Miller  
 Date: 9/23/2014  
 Client: R. Jones, WMI  
 Site: Powell Rd  
 Temperature: 78  
 Barometric Press.: 29.98

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN	9/23/2014	10:48	25.9	21.1	1.5	51.5	-20	99	
POWLBLOT	9/23/2014	10:52	25.1	25.3	2.2	47.4	5.4	74	
POWL0001	9/23/2014	12:44	24.1	28.1	0	47.8	-3.3	68	
POWL0002	9/23/2014	12:50	48.5	32	0.8	18.7	-18.5	75	
POWL0003	9/23/2014	1:41	24.8	30.4	0.3	44.5	-4.6	71	Fully Closed
POWL0004	9/23/2014	1:48	3.7	0.4	16.2	79.7	-1.4	71	Closed
POWL0005	9/23/2014	2:01	33.7	32.4	2	31.9	-3.8	68	No Change
POWL0006	9/23/2014	2:06	38.8	29.2	2.8	29.2	-4.7	67	No Change
POWL0007	9/23/2014	2:11	24	26.4	2.5	47.1	-11.6	69	No Change/Closed
POWL0008	9/23/2014	2:19	2.1	5	13.6	79.3	-0.8	71	Decreased Flow
POWL0009	9/23/2014	1:19	13.6	19.2	7	60.2	-7.8	81	Decreased Flow
POWL0010	9/23/2014	1:09	0.6	0.5	11.2	87.7	-1.2	71	No Change/BO
POWL0011	9/23/2014	12:16	21.4	26.7	0	51.9	-7.6	81	No Change/ BO
POWL0012	9/23/2014	12:09	15.7	19.1	4.1	61.1	-1.9	68	Closed
POWL0013	9/23/2014	11:07	35	30.2	0.4	34.4	-5.8	80	Increased Flow
POWL0014	9/23/2014	11:18	16.6	10.7	10.3	62.4	0.1	76	Closed
POWL0015	9/23/2014	11:27	20.9	24.2	0.7	54.2	-13.9	66	No Change
POWL0016	9/23/2014	11:37	1.2	18	3.2	77.6	-0.1	72	Closed
POWL0017	9/23/2014	11:41	11.3	22.2	3.6	62.9	-7.1	71	Increased Flow
POWL0018	9/23/2014	12:40	38.5	31.9	0	29.6	-4.8	72	Closed
POWL0019	9/23/2014	12:32	52.6	19	1.5	26.9	-20.3	71	Increased Flow
POWL0020	9/23/2014	11:53	32.9	11	8.1	48	-3.5	76	Decreased Flow
POWL0021	9/23/2014	12:05	15	13.5	7.8	63.7	-3.8	72	No Change
POWL0022	9/23/2014	12:25	28.1	21	0.1	50.8	-20.2	76	Full Open
POWL0023	9/23/2014	1:02	57.1	33.3	0.6	9	-21.2	74	No Change
POWL0024	9/23/2014	1:24	40.8	21.1	7.8	30.3	-20.5	72	Closed
POWL0025	9/23/2014	1:32	36	18.3	8.3	37.4	-14.6	76	No Change
POWL0026	9/23/2014	12:59	6	31	1.4	61.6	-20	81	Increased Flow
POWLBLIN	9/23/2014	3:11	25.9	25.1	2.2	46.8	-20.5	82	
POWLBLOT	9/23/2014	3:14	25.3	24.1	3.1	47.5	4.2	83	

Comments:

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**Wellfield Monitoring Data**

Technician: Tom Miller  
Date: 12/22/2014  
Client: R. Jones, WMI  
Site: Powell Rd  
Temperature:  
Barometric Press.:

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN									
POWLBLOT									
POWL0001									
POWL0002									
POWL0003									
POWL0004									
POWL0005									
POWL0006									
POWL0007									
POWL0008									
POWL0009									
POWL0010									
POWL0011									
POWL0012									
POWL0013									
POWL0014									
POWL0015									
POWL0016									
POWL0017									
POWL0018									
POWL0019									
POWL0020									
POWL0021									
POWL0022									
POWL0023									
POWL0024									
POWL0025									
POWL0026									
POWLBLIN									
POWLBLOT									

Comments: System down for maintenance.

## **APPENDIX J.**

### **WELLFIELD MONITORING DATA**

**APPENDIX K.**

**SIERRA MONITOR INSPECTION REPORTS**

## Powell Sierra Monitors

Date: 3/11/2014

Technician: TOM MILLER

	ADDRESS, NAME & PHONE NUMBER	MONITOR FUNCTIONING PROPERLY?	MONITOR CALIBRATED?	MONITOR NEEDS ATTENTION?
1	Onsite Compressor Building	Yes	No	No

COMMENTS:

---

## Powell Sierra Monitors

Date: 6/30/2014  
Technician: TOM MILLER

	ADDRESS, NAME & PHONE NUMBER	MONITOR FUNCTIONING PROPERLY?	MONITOR CALIBRATED?	MONITOR NEEDS ATTENTION?
1	Onsite Compressor Building	Yes	No	No

COMMENTS:

---

## Powell Sierra Monitors

Date: 9/23/2014

Technician: TOM MILLER

	ADDRESS, NAME & PHONE NUMBER	MONITOR FUNCTIONING PROPERLY?	MONITOR CALIBRATED?	MONITOR NEEDS ATTENTION?
1	Onsite Compressor Building	Yes	No	No

COMMENTS:

---

## Powell Sierra Monitors

Date: 12/22/2014  
Technician: TOM MILLER

	ADDRESS, NAME & PHONE NUMBER	MONITOR FUNCTIONING PROPERLY?	MONITOR CALIBRATED?	MONITOR NEEDS ATTENTION?
1	Onsite Compressor Building	Yes	No	No

COMMENTS:

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## **APPENDIX L.**

### **GAS PROBE MONITORING REPORTS**

**PERMANENT GAS PROBE MONITORING REPORT**  
**LANDFILL GAS EXTRACTION SYSTEM**  
**POWELL ROAD LANDFILL**

Combustible Gas Instrument Type:	CES Landtec GEM 5000	Serial No.:	GM5k0000-200-I
Date Last Calibrated:	3/11/2014	Method:	GA/Mode
Pressure Instrument Type:	CES Landtec GEM 5000	Serial No.:	GM5k0000-200-I
Water Level Instrument Type:	SOLINIST MODEL 101	Serial No.:	N/A
Weather Conditions:	wet and overcast	Barometric Pressure:	28.83

Monitor Point	Time	Pressure In. W.C. (+/-)	Percent Methane	Water Level	Comments
GP-1	12:09	0.00	0.0	14.1	No Comments
GP-2	12:15	0.00	0.0	16.8	No Comments
GP-3	12:33	-0.01	0.0	9.3	No Comments
GP-4	12:03	-0.02	0.0	0.0	Could not get cap off for water level
GP-5	11:52	-0.02	0.0	9.5	No Comments
GP-6	11:43	-0.01	0.0	10.9	No Comments

Date Performed: 3/11/2014

By: TOM MILLER

**PERMANENT GAS PROBE MONITORING REPORT**  
**LANDFILL GAS EXTRACTION SYSTEM**  
**POWELL ROAD LANDFILL**

Combustible Gas Instrument Type:	CES Landtec GEM 5000	Serial No.:	GM5k0000-200-I
Date Last Calibrated:	6/30/2014	Method:	GA/Mode
Pressure Instrument Type:	CES Landtec GEM 5000	Serial No.:	GM5k0000-200-I
Water Level Instrument Type:	SOLINIST MODEL 101	Serial No.:	N/A
Weather Conditions:	82° partly cloudy Dry	Barometric Pressure:	29.95

Monitor Point	Time	Pressure In. W.C. (+/-)	Percent Methane	Water Level	Comments
GP-1	10:04	0.00	0.0	13.8	No Comments
GP-2	10:11	-0.01	0.0	16.4	No Comments
GP-3	10:26	0.00	0.0	9.2	No Comments
GP-4	10:38	-0.02	0.0	0.0	Could not get cap off for water level
GP-5	11:05	-0.01	0.0	9.9	No Comments
GP-6	11:12	-0.01	0.0	10.1	No Comments

Date Performed: 6/30/2014

By: TOM MILLER

**PERMANENT GAS PROBE MONITORING REPORT**  
**LANDFILL GAS EXTRACTION SYSTEM**  
**POWELL ROAD LANDFILL**

Combustible Gas Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Date Last Calibrated:	9/23/2014	Method:	GA/Mode
Pressure Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Water Level Instrument Type:	SOLINIST MODEL 101	Serial No.:	N/A
Weather Conditions:	77° partly cloudy Dry	Barometric Pressure:	29.27

Monitor Point	Time	Pressure In. W.C. (+/-)	Percent Methane	Water Level	Comments
GP-1	3:32	0.01	0.0	14.1	No Comments
GP-2	3:40	0.00	0.0	16.6	No Comments
GP-3	3:51	0.00	0.0	9.4	No Comments
GP-4	3:56	-0.02	0.0	0.0	Could not get cap off for water level
GP-5	4:09	-0.01	0.0	10.2	No Comments
GP-6	4:17	0.02	0.0	10.6	No Comments

Date Performed: 9/23/2014

By: TOM MILLER

**PERMANENT GAS PROBE MONITORING REPORT**  
**LANDFILL GAS EXTRACTION SYSTEM**  
**POWELL ROAD LANDFILL**

Combustible Gas Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Date Last Calibrated:	12/22/2014	Method:	GA/Mode
Pressure Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Water Level Instrument Type:	SOLINIST MODEL 101	Serial No.:	N/A
Weather Conditions:	28° partly cloudy Dry	Barometric Pressure:	30.01

Monitor Point	Time	Pressure In. W.C. (+/-)	Percent Methane	Water Level	Comments
GP-1	7:41	0.20	0.0	14.6	No Comments
GP-2	7:50	0.00	0.0	16.7	No Comments
GP-3	7:57	0.10	0.0	9.6	No Comments
GP-4	8:03	0.10	0.0	0.0	Could not get cap off for water level
GP-5	8:11	0.30	0.0	10.6	No Comments
GP-6	8:33	1.10	0.0	10.8	No Comments

Date Performed: 12/16/2014

By: TOM MILLER

## **APPENDIX M.**

### **MONITORING WELL INTEGRITY REPORTS**

# MONITORING WELL INTEGRITY REPORT

(✓) YES

(X) NO

(NA) NOT APPLICABLE

Date:

5/13/14

Facility Name: Powell Road Landfill

Inspected by: A.Graham / C.Gordon

	Monitoring Well									
	MW02AR	MW02B	MW04AR	MW04BRR	MW05AR	MW05BR	MW07AR	MW12A	MW12B	MW13B
<u>A. Location / Identification</u>										
1. Is well flagged/painted?	X	X	X	X	X	X	X	X	X	X
2. Is well labeled inside / outside?	✓	✓	✓	✓	✓	—	—	✓	✓	✓
3. Is well situated away from a low point or point or ponded water?	X	X	X	X	X	X	X	✓	✓	✓
4. Is wellhead area free of waste, stored chemicals, etc.?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is well readily accessible?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. If in vulnerable traffic area, is well surrounded by protective posts?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Is the well location appropriately shown on facility permit and/or design drawing?	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
8. Is well elevation information correct?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>B. Surface Seal</u>										
1. Is there a concrete surface seal in good conditions (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is the seal snug against the casing and ground surface?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the seal sloped away from the wellhead?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>C. External Casing</u>										
1. Does well have external casing in good condition (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well locked?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is lock in good condition (i.e. no severe rust)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Does cap and lock effectively prevent tampering?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing/annulus in good condition and free of water/live animals/debris?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. Do above-ground wells have weep holes at the base of protective casing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>D. Internal Casing</u>										
1. Is internal casing at least 1 foot above ground?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is casing tight horizontally/vertically/rotationally?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the cap snugly fitting/in good condition/made of suitable materials?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is sampling equipment in good condition (tubing, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing free of live animals/debris/kinks or bends?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Comments: ITEMS MARKED WITH AN "X" (NO) ARE EXPLAINED ON THE ATTACHED SHEET.

# MONITORING WELL INTEGRITY REPORT

(✓) YES

(X) NO

(NA) NOT APPLICABLE

Date:

5/13/14

Facility Name: Powell Road Landfill

Inspected by: A. Graham / C. Gordon

	Monitoring Well									
	MW13C	MW14B	MW15B	MW15C	MW16A	MW16B	MW17A	MW17B	MW18A	MW18B
<b>A. Location / Identification</b>										
1. Is well flagged/painted?	X	X	X	X	X	X	X	X	X	X
2. Is well labeled inside / outside?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is well situated away from a low point or point or ponded water?	✓	✓	✓	✓	X	X	X	X	X	X
4. Is wellhead area free of waste, stored chemicals, etc.?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is well readily accessible?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. If in vulnerable traffic area, is well surrounded by protective posts?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Is the well location appropriately shown on facility permit and/or design drawing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Is well elevation information correct?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>B. Surface Seal</b>										
1. Is there a concrete surface seal in good conditions (i.e., no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is the seal snug against the casing and ground surface?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the seal sloped away from the wellhead?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>C. External Casing</b>										
1. Does well have external casing in good condition (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well locked?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is lock in good condition (i.e. no severe rust)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Does cap and lock effectively prevent tampering?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing/annulus in good condition and free of water/live animals/debris?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. Do above-ground wells have weep holes at the base of protective casing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>D. Internal Casing</b>										
1. Is internal casing at least 1 foot above ground?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is casing tight horizontally/vertically/rotationally?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the cap snugly fitting/in good condition/made of suitable materials?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is sampling equipment in good condition (tubing, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing free of live animals/debris/kinks or bends?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Comments:

The following text provides explanations for the items marked "no" on the Monitoring Well Integrity Report for May 13, 2014.

Item A. Location / Identification

1. Is well flagged / painted?

Most of the monitoring wells at the Powell Road Landfill (PRL) are constructed with silver or gold anodized aluminum guard pipes. These guard pipes are highly visible and do not require paint. Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are located off of the PRL property, south of the Great Miami River. These wells are equipped with 3/8-inch thick steel guard pipes over the anodized aluminum guard pipes. These secondary guard pipes were put on to protect the wells from vandalism (primarily from gun shots). These secondary guard pipes are not painted or flagged so as not to call attention to the wells.

3. Is well situated away from a low point or point of ponded water?

Monitoring wells MW02AR, MW02B, MW04AR, MW04BRR, MW05AR, MW05BR, MW07AR, MW16A, MW16B, MW17A, MW17B, MW18A, and MW18B are located along the southern edge of the landfill area at the PRL; north of the Great Miami River. This area is floodplain and is prone to flooding. Standing water is common in places after flooding or heavy rain. All of these monitoring wells are equipped with surface seals and flood protective well caps on the two inch well casings to prevent surface water from entering the wells.

Item C. External Casing

5. Is casing / annulus in good condition and free of water / live animals/ debris.

Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are equipped with secondary guard pipes as explained previously in Item A.1. Insects (wasps, spiders, ants, beetles) are commonly found within these secondary guard pipes.

# MONITORING WELL INTEGRITY REPORT

(✓) YES

(X) NO

(NA) NOT APPLICABLE

Date:

11/3/14

Facility Name: Powell Road Landfill

Inspected by: C.GORDON / A.GRAHAM

	Monitoring Well									
	MW02AR	MW02B	MW04AR	MW04BRR	MW05AR	MW05BR	MW07AR	MW12A	MW12B	MW13B
A. Location / Identification										
1. Is well flagged/painted?	X	X	X	X	X	X	X	X	X	X
2. Is well labeled inside / outside?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is well situated away from a low point or point or ponded water?	X	X	X	X	X	X	X	✓	✓	✓
4. Is wellhead area free of waste, stored chemicals, etc.?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is well readily accessible?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. If in vulnerable traffic area, is well surrounded by protective posts?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Is the well location appropriately shown on facility permit and/or design drawing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Is well elevation information correct?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
B. Surface Seal										
1. Is there a concrete surface seal in good conditions (i.e., no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is the seal snug against the casing and ground surface?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the seal sloped away from the wellhead?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
C. External Casing										
1. Does well have external casing in good condition (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well locked?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is lock in good condition (i.e. no severe rust)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Does cap and lock effectively prevent tampering?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing/annulus in good condition and free of water/live animals/debris?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. Do above-ground wells have weep holes at the base of protective casing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
D. Internal Casing										
1. Is internal casing at least 1 foot above ground?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is casing tight horizontally/vertically/rotationally?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the cap snugly fitting/in good condition/made of suitable materials?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is sampling equipment in good condition (tubing, etc.)?	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing free of live animals/debris/kinks or bends?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Comments: ITEMS MARKED WITH AN "X" (No) ARE EXPLAINED ON THE ATTACHED SHEETS.

# MONITORING WELL INTEGRITY REPORT

(✓) YES

(X) NO

(NA) NOT APPLICABLE

Date:

11/3/14

Facility Name: Powell Road Landfill

Inspected by:

C.Gordon / A.Graham

	Monitoring Well									
	MW13C	MW14B	MW15B	MW15C	MW16A	MW16B	MW17A	MW17B	MW18A	MW18B
A. Location / Identification										
1. Is well flagged/painted?	X	X	X	X	X	X	X	X	X	X
2. Is well labeled inside / outside?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is well situated away from a low point or point or ponded water?	✓	✓	✓	✓	X	X	X	X	X	X
4. Is wellhead area free of waste, stored chemicals, etc.?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is well readily accessible?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. If in vulnerable traffic area, is well surrounded by protective posts?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Is the well location appropriately shown on facility permit and/or design drawing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Is well elevation information correct?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
B. Surface Seal										
1. Is there a concrete surface seal in good conditions (i.e., no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is the seal snug against the casing and ground surface?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the seal sloped away from the wellhead?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
C. External Casing										
1. Does well have external casing in good condition (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well locked?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is lock in good condition (i.e. no severe rust)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Does cap and lock effectively prevent tampering?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing/annulus in good condition and free of water/live animals/debris?	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. Do above-ground wells have weep holes at the base of protective casing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
D. Internal Casing										
1. Is internal casing at least 1 foot above ground?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is casing tight horizontally/vertically/rotationally?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the cap snugly fitting/in good condition/made of suitable materials?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is sampling equipment in good condition (tubing, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing free of live animals/debris/kinks or bends?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Comments: ITEMS MARKED WITH AN "X" (NO) ARE EXPLAINED ON THE ATTACHED SHEET.

The following text provides explanations for the items marked "no" on the Monitoring Well Integrity Report for November 3, 2014.

Item A. Location / Identification

1. Is well flagged / painted?

Most of the monitoring wells at the Powell Road Landfill (PRL) are constructed with silver or gold anodized aluminum guard pipes. These guard pipes are highly visible and do not require paint. Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are located off of the PRL property, south of the Great Miami River. These wells are equipped with 3/8-inch thick steel guard pipes over the anodized aluminum guard pipes. These secondary guard pipes were put on to protect the wells from vandalism (primarily from gun shots). These secondary guard pipes are not painted or flagged so as not to call attention to the wells.

3. Is well situated away from a low point or point of ponded water?

Monitoring wells MW02AR, MW02B, MW04AR, MW04BRR, MW05AR, MW05BR, MW07AR, MW16A, MW16B, MW17A, MW17B, MW18A, and MW18B are located along the southern edge of the landfill area at the PRL; north of the Great Miami River. This area is floodplain and is prone to flooding. Standing water is common in places after flooding or heavy rain. All of these monitoring wells are equipped with surface seals and flood protective well caps on the two inch well casings to prevent surface water from entering the wells.

Item C. External Casing

4. Is casing / annulus in good condition and free of water / live animals/ debris?

Monitoring Well MW13C had a large number of ants between the well and inside protective cover. Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are equipped with secondary guard pipes as explained previously in Item A.1. Insects (wasps, spiders, ants, beetles) are commonly found within these secondary guard pipes.

Item D. Internal Casing

5. Is the sampling equipment in good condition (tubing, etc.)?

The water from Monitoring Well MW02B pumped erratically during the event. A worn bladder was suspected and the pump was removed from the well and sent to the

manufacturer for repairs following the sampling event. The pump will be reinstalled in the well prior to the next semiannual sampling event.

**APPENDIX N.**

**GROUND-WATER QUALITY DATA SUMMARIES  
(On CD)**